

Strategic Intervention Materials: A Tool in Improving Students' Academic Performance

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Abstract

This study aimed to develop and use teacher-made instructional materials otherwise known as Strategic Intervention Materials (SIMs), and investigated the impact of these intervention materials in teaching the identified least learned concepts in Science VI namely: Circulatory System, Nervous System and Respiratory System. The study was a mixed method research which utilized an explanatory sequential design where quantitative data collection and analysis occurs first, followed by a qualitative data collection and analysis. It was revealed that there was a significant difference between the pre-test and post-test performance of the students. The utilization of the SIMs is an effective intervention that made students obtained better scores in the posttest.

Keywords: SIMs, Circulatory System, Nervous System and Respiratory System

Introduction

The K-12 Science Curriculum aims to develop scientific literacy among students that prepares them to be citizens that partakes and involved in decision-making with regards to the application of scientific knowledge and building impacts to health, social and environmental sectors. (K-12 Curriculum, 2016)

With the implementation of the K-12 Curriculum, elementary Science teachers are challenge to ensure that all pupils would become scientifically literate; this means that teaching should not only be limited to acquisition of knowledge but also in the development of higher order thinking skills, however, this goal will never be realized if they lack mastery in major competencies in Science 6.

In the 2015 National Achievement Test (NAT) The National Mean Percentage Score of Science Subject in the Elementary level is only 59.70%. This showed that only 6 out of 10 pupils mastered the competencies in Science.

For Bayawan City Division, out of the five subjects tested in the National Achievement Test, Science ranks second to the last with only 61 Mean Percentage Score (MPS), which falls below the standard. Most of the competencies in the National Achievement Test (NAT) were not mastered. This result indicated the need for designing appropriate intervention programs such as remediation or enrichment.

Republic Act No. 10533, otherwise known as "Enhanced Basic Education Act of 2013", section 5 of the curriculum development states that the production and development of locally produced teaching materials shall be encouraged, and approval of these materials shall devolve to the regional and division education units.

Thus, the researcher aims to develop a teacher-made strategic intervention materials to help improve students' level of understanding on the least learned concepts in Science 6 and to investigate its impact to pupils' academic performance. Strategic Intervention Materials (SIMs), according to Bunagan (2012) is an aid in re-teaching the least mastered topics and competencies that were not developed during regular classroom instruction.

Related literature says there is no study conducted on the effectiveness of the SIM on the following topics: Circulatory System, Nervous System and Respiratory System, thus, this study will be conducted.

Research Design

The study is a mixed method of research which utilized an explanatory sequential design where quantitative data collection and analysis occurs first, followed by a qualitative data collection and analysis. It is quantitative in nature because data were collected and interpreted before and after using the SIMs. It was also qualitative in nature since we measured the students' perception on the effectiveness in using the SIMs.

The research process were categorized into three phases: 1.) Determination of Least Mastered Topics 2.) Development and Validation of SIMs 3.) Final Phase.

Phase 1. Determination of Least Mastered skills based on the result of the summative test. The researcher determined the specific competencies in the following topics: (a) The Circulatory System (b) The Respiratory System and (c) The Nervous System are least mastered by the pupils.

Phase 2. Development and Validation Phase. The researcher made the SIMs following all the parts and has it validated by the experts in the field of Science Teaching in the Division Level 2017 Science Fair where the researcher herself joins as a contestant in the SIM competition. After the validation process, revisions and suggestions from the experts were made to improve the effectiveness of the SIMs.

Then the researcher made a 24-item teacher-made test for the pre-test.

Phase 3. Final Phase. The pupils used the SIMs in remediation and after completing the tasks in SIM; the pupils answered the same 24-item teacher-made test to determine whether there was an increase or none in their performance after the introduction of SIMs.

Research Environment

This study was conducted in the following elementary schools of Cluster 6 in Bayawan City Division and is all located in Barangay Nangka, Bayawan City Negros Oriental namely, Tavera Elementary School, Holy Family Elementary School, and Nangka Elementary School.

Tavera Elementary School is situated in Sitio Tavera 5km away from the national highway. The school is surrounded by Mahogany trees which makes it very refreshing for both the teachers and students. It is composed of 11 teaching staff and a teacher-student ratio of 1:40.

Holy Family Elementary School is situated in Sitio San Ramon along the national highway, where citizens used to call it "flood-prone area". But in spite of that dilemma the school was able to overcome and perform well. It is composed of 10 teaching staff and teacher-student ratio of 1:36.

Nangka Elementary School is situated in proper Nangka also a "flood-prone area". It is a big school composed of 20 teaching staff and a teacher-student ratio of 1:32 to 1:45.

All the three schools, big and small have the facilities and amenities such as computer room, hand-washing area, classroom comfort rooms and public comfort rooms. All classrooms are well-lighted and ventilated. Some schools have internet connectivity while others do not.

Research Respondents

The respondents of this study were the Grade 6 pupils who fall below the standard criterion of 75% during summative test. There were a total of 81 respondents who were enrolled in School Year 2017-2018; 32 students from Tavera Elementary School, 17 from Holy Family Elementary School, and 32 from Nangka Elementary School.

Research Instruments

The study used a teacher-made Strategic Intervention Materials as a tool in re-teaching the least mastered topics in science 6 namely: (a) Circulatory System (b) Respiratory System and (c) Nervous System. The SIMs was validated by experts in the field of science teaching during the Division Level 2017 Science Fair. In validating the SIM made by the researcher, the Standard Criteria for SIM “DepEd Memo No. 225, series of 2009, Enclosure No. 2” was used. After the validation process, the SIM had undergone revisions to ensure its effectiveness. After the revisions, the researcher conducted a 24-item teacher-made test to the respondents for the pre-test. Then they utilized the SIMs for their remediation and lastly they again answered the same questionnaire used in the pre-test for their post-test. The scores of each respondent were used and detailed statistical analysis was conducted for data analysis.

Research Procedure

After analysing the summative test results of the pupils, the researcher found the test results below the Mean Percentage Score which is 75% of the total items. And so the researcher arrived at a decision to, first, make a SIM for the following least mastered topics: (a) Circulatory System (b) Respiratory System and (c) Nervous System. Second, the SIMs were validated by the experts in the field of science teaching in the Division Level 2017 Science Fair. After the validation process, changes suggested by the experts were followed. Third, a letter to conduct the study was disseminated to the Division Superintendent, the Cluster PSDS, the School Heads, the Advisers and the respondents.

Fourth, the respondents answered the 24-item teacher-made pre-test for each topic. Fifth, the respondents utilized the Strategic Intervention Materials for their remediation; they answered all the activities and finished the remediation process. And lastly, the respondents again answered the same 24-item teacher-made test for their post-test. Scores are then tallied and interpreted.

Findings

Table 1. Pre-test Performance of the Students

Topics	Average	Verbal Description	Standard Deviation
Circulatory System	70.37	Did Not Meet Expectations	4.43
Respiratory System	73.17	Did Not Meet Expectations	5.18
Nervous System	68.64	Did Not Meet Expectations	4.21
Overall	70.73	Did Not Meet Expectations	3.32

The data in Table 1 indicate that students have not understood the concepts of circulatory system, respiratory system and nervous system. Their pre-test transmuted ratings are below the 75% passing rate of the Department of Education under DepEd Order No. 8 s. 2015 Policy Guidelines on Classroom Assessment for the K to 12 Basic Education. The present finding is similar with the result of Togonon’s study about SIMs where the pre-test result yielded a rating which is less than the adopted passing score.

Similar result is also evident in the study of Alboruto (2017) where the pre-test scores totalled an average of 48.25% which is also below 75%.

Table 2. Post-test Performance of the Students

Topics	Average	Verbal Description	Standard Deviation
Circulatory System	81.16	Satisfactory	5.99
Respiratory System	83.48	Satisfactory	8.40
Nervous System	83.51	Satisfactory	8.91
Overall	82.72	Satisfactory	6.22

This data show that there is an improvement of pupil's performance after the introduction of SIMs. As reflected, the post-test ratings on the topics could be classified as "satisfactory". The data clearly indicate that it had passed the 75% standard criterion of DepEd.

The post-test result in the study is similar with that of Soberano (2010) where the post-tests of the experimental group increased evidently after the use of SIMs. Similar findings also surfaced in the study of Salviejo (2014), Miguel (2010) and Estacio (2008).

Table 3. Difference between the Pre-test and Post-test Performance of the Students

Topics	Pre-test Rating	VD	Post-test Rating	VD	Rating Difference
Circulatory System	70.37	Did Not Meet Expectations	81.16	Satisfactory	10.79
Respiratory System	73.17	Did Not Meet Expectations	83.48	Satisfactory	10.31
Nervous System	68.64	Did Not Meet Expectations	83.51	Satisfactory	14.87
Overall	70.73	Did Not Meet Expectations	82.72	Satisfactory	11.99

The data in Table 3 show the difference in the pre-test and post-test performance of the students. As reflected, the transmuted ratings of the students in the pre-test are all failing. After the utilization of the SIMs, their post-test transmuted ratings reveal a satisfactory result. It is also worth noting that the difference in their ratings reached to almost 12 points on the average. This just implies that the utilization of the SIMs enables the students to deepen their knowledge and understanding on the identified least mastered concepts in Science.

This results is similar with the finding of Togonon (2011) where she stressed that students exposed to SIMs performs better on post-test than the pre-test. The results of the study were also in line with the findings of Hogan and Woodward who found out that intervention materials contributed to better learning of the concepts among students. (Cited in Soberano, 2010)

This result validated the effectivity of remediation with the use of Strategic Intervention Materials (SIMs) in uplifting the learning accomplishments of students.

Table 4. Extent of Effectiveness of SIMs in Learning the Concepts

<i>To what extent do students' perceive the following</i>	$w\bar{x}$	Verbal Description	Equivalent
The SIM inspired and encouraged me to learn more concepts in Science VI.	4.89	Strongly Agree	Very High
The instructions are simple and easy to follow.	4.86	Strongly Agree	Very High
The SIM helps me understand the main parts and functions of circulatory system, nervous system and respiratory system that were not understood during regular classroom teaching.	4.81	Strongly Agree	Very High
Confusing concept of circulatory system, nervous system and respiratory system was clearly presented.	4.81	Strongly Agree	Very High
I enjoyed reading and doing all the activities provided in the SIM.	4.75	Strongly Agree	Very High
I want to use SIM during remediation class.	4.66	Strongly Agree	Very High
The SIM offers interesting activities.	4.65	Strongly Agree	Very High
After using the SIM, I learn the concepts that were not fully understood in the regular classroom instruction.	4.57	Strongly Agree	Very High
The SIM is student-friendly material.	4.49	Strongly Agree	Very High
I can set up my own pace in learning without feeling pressured about time.	4.07	Agree	High
Composite	4.66	Strongly Agree	Very High

Legend:	Scale	Verbal Description	Equivalent
	4.21 – 5.00	Strongly Agree	Very High
	3.41 – 4.20	Agree	High
	2.61 – 3.40	Moderately Agree	Moderate
	1.81 – 2.60	Disagree	Low
	1.00 – 1.80	Strongly Disagree	Very Low

The data in Table 4 reflect the consolidated responses of 81 respondents on their perception on using strategic intervention materials. The indicators were arranged according to themes.

Motivation

Motivation is a driving force of learning; it directs behavior towards particular learning goals which the learner strives. (Ormrod, 2014) When students became motivated they believed they can be effective in reaching desired learning goals and they attributed their learning results under their own control and with the effort they expended.

Firstrank among all the indicators states that students were inspired in utilizing the SIMs and encouraged them to learn more concepts in Science VI ($w\bar{x} = 4.89$). In an open ended question the students commented that they like using SIMs because it's easy to understand, it's colorful and the stories are exciting. When the learner like the material there will be most likely an increase in their effort and persistence to learn more, they become motivated.

Simplicity

The students also find instruction in SIMs simple and easy to follow ($w\bar{x} = 4.86$) and considered it as student-friendly material ($w\bar{x} = 4.49$) since the SIMs is for low performing students it should be clear and easy to use (Policarpio, 2011).

Clarity

Students further reveal that confusing of circulatory system, nervous system and respiratory system were clearly presented ($w\bar{x} = 4.81$) and the SIMs helped them understand the lessons that were not fully understood during regular classroom teaching ($w\bar{x} = 4.81$). It was evident that after the use of SIMs the pupils understood the topic better ($w\bar{x} = 4.57$). These findings are in line with that of Dy (2011) that revealed the usefulness of SIMs as an instructional material that increase student's level of understanding.

Boost Student's Interest

Most of the students also say they enjoyed reading and doing all the activities in the SIMs ($w\bar{x} = 4.75$) because it offers interesting topics ($w\bar{x} = 4.65$). This runs parallel to the finding of Acuña, Gutierrez and Areta (2015) wherein they concluded that the integration of reading skills in the development of SIMs may facilitate the learning of Science concepts in a sense that the pupils actively engaged and participated in activities that connect to their real life experiences, a view anchored on constructivist view of learning. Comparably, Science as a major subject area matched with effective reading practice may assist in understanding Science concepts and process skills and make them interested in taking part of their own learning.

Availability

Furthermore, the learner wanted to use SIMs during remediation ($w\bar{x} = 4.66$). This finding is similar with the study of Dahar (2011) which states that instructional materials captivates the students' attention and making it available for them will surely produce and impact which contributes to successful learning.

Learning Pace

Students learn in different way and in different pace (Smorenberg, 2014). This holds true since children differs from one another, the SIMs provides opportunity for learners to set up their own pace in learning in a particular topic ($w\bar{x} = 4.07$) without being pressured about time that is why when a child cannot finish his work in school the teachers allow the child to bring home the SIMs.

Summary of Findings

Presented hereunder are the results based on the analysis and interpretation of the data.

1. Pre-test Performance of the students in the three topics before using the SIMs

The study disclosed that the pre-test performance of the students in topics; Circulatory System, Nervous System and Respiratory System are 70.37%, 68.84% and 73.17% respectively.

2. Post-test Performance of the students in the tree topics after using the SIMs

The study revealed that the post-test performance of the student's in the topics; Circulatory System, Nervous System and Respiratory System are 81.16%, 83.51% and 83.48% respectively.

3. Difference in the Pre-test and Post-test Performance of the Students

There is a significant difference between the pre-test and post-test performance of the students in all topics. The difference is attributed to the use of SIMs in learning the Science concepts.

4. Students' Perceptions on the effectiveness in using the Strategic Intervention Materials in Learning Science Concepts

The student's perceptions on the effectiveness in using SIMs were consolidated and ranked from highest to lowest. Among all the indicators only one indicator had a verbal description "Agree" which is equivalent to "high", all the rest of indicators had a verbal description "Strongly Agree" which is equivalent to "Very high".

Conclusions

Based on the findings of this study, the following conclusions are hereby presented:

1. The pre-test performance of the students before using the SIMs does not meet the 75% standard criterion.

2. The post-test performance of the students after using the SIMs meets the standards criterion of 75% and generally classified in the satisfactory level.
3. This implied that using Strategic Intervention Materials in learning least learned concepts helped the student's attained higher score.
4. The students had a positive perception on the use of Strategic Intervention Materials. Students find it enjoyable, interesting and it contributes positive attitude towards learning more concepts in Science.

Recommendations

In light with the findings and conclusion drawn, the following recommendations were suggested:

1. Use SIMs in other least learned concepts in Science to further validate the result of the study.
2. Use SIMs as a remediation material to enhance and deepen the knowledge of low performing students in Science.

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Appendices

Table of Specification
The Circulatory System

Learning Competencies	COGNITIVE PROCESS DIMENSIONS						Item Placement	No of Items
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating		
Explain how the organs of the circulatory system work together Sub-tasks: Identify the major parts and functions of circulatory system; heart, blood and blood vessels	√	√	√	√			Test I 1-8	8
Illustrate and describe the circulatory routes of the blood in the human body.		√		√		√	Test II 1-8	8
Maintain healthy habits to keep heart, blood and blood vessels healthy.			√				Test III 1-8	8
TOTAL								24

Name: _____

School: _____

The Circulatory System

Test I: Identify the parts and function of the circulatory system.

Direction: Read and understand the questions carefully. Choose the letter of the correct answer.

1. What is the main transport system of the body which is responsible for the transport water, nutrients, and oxygen to the body cells and carries carbon dioxide and other wastes to excretory system?
 - a. Excretory System
 - b. Respiratory System
 - c. Circulatory System
 - d. Digestive System
2. It is a specialized muscular organ about the size of your fist found at the middle of the chest cavity with its *apex* tilted to the left side?
 - a. Pancreas
 - b. Heart
 - c. Blood Vessels
 - d. Lungs
3. What do you call the hollow tubes that permit the blood to flow from the heart to the body cells then back to the heart?
 - a. Auricles
 - b. Blood vessels
 - c. Ventricle
 - d. Platelets
4. It is a protein-rich fluid circulating in the body which consists of plasma and three blood cells namely, red blood cells, white blood cells and platelets.
 - a. Blood
 - b. Minerals
 - c. Vitamins
 - d. Nutrients
5. It is the upper chambers of the heart where blood from the different body parts enters through the major blood vessels.
 - a. Atria
 - b. Ventricles
 - c. Superior vena cava
 - d. Pulmonary veins
6. It is the narrowest and most numerous blood vessels in the human body where food nutrients and oxygen molecules are transferred from the blood to the cells of the body and carbon dioxide and other wastes are picked up.
 - a. Arteries
 - b. Aorta
 - c. Veins
 - d. Capillaries
7. When there is a cut or damage in the blood vessels, platelets releases a clotting protein into the blood that initiates chemical reaction resulting in the formation of a protein called _____?
 - a. Hemoglobin
 - b. Pus
 - c. Fibrin
 - d. Protein
8. What is the main function of the Red blood cells (RBCs) in the body?
 - a. Help fight infections and microorganisms that enter the body.
 - b. Deliver oxygen to the different parts of the body.
 - c. Help in blood clotting.
 - d. Deliver water, minerals, nutrients, sugar and other substances in the body.

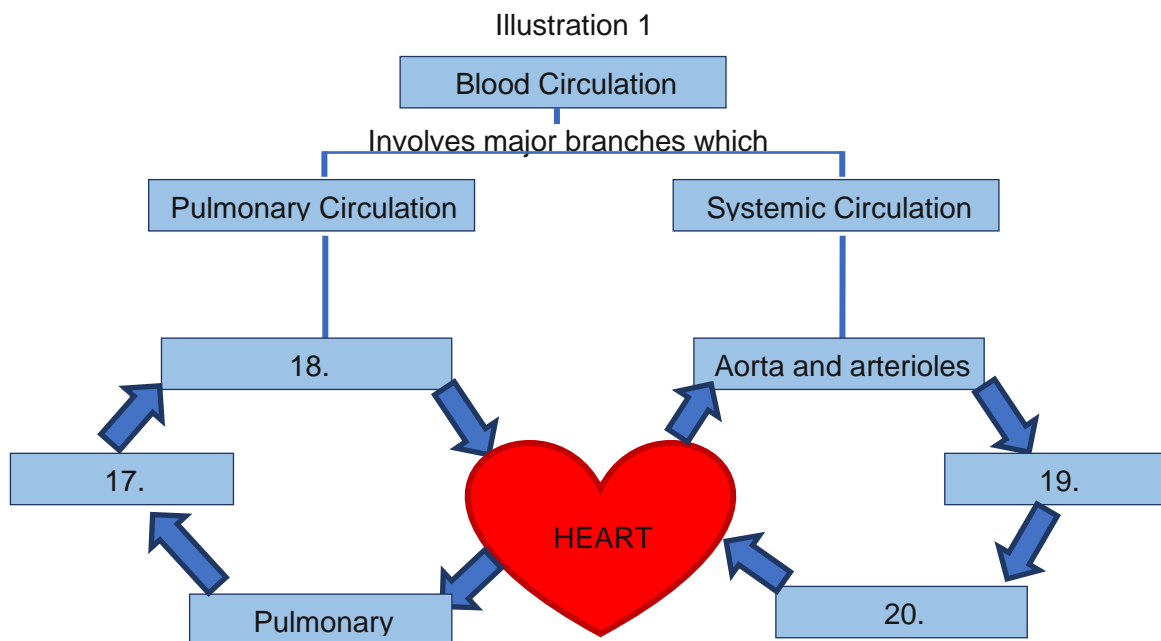
Test II: Identify health habits to keep the heart, blood, and blood vessels healthy.

Direction: Put a check (✓) on the statement that show desirable habits that prevent/control common ailments of the circulatory system and (x) if not.

- | | |
|---|---|
| _____ 9. Eat fiber-rich food. | _____ 13. Smoke cigarettes three times a day. |
| _____ 10. Live a sedentary life. | _____ 14. Check blood pressure regularly. |
| _____ 11. Sleep more than 10 hours a day. | _____ 15. Avoid anxieties and worries. |
| _____ 12. Exercise regularly. | _____ 16. Eat too much fats and salty foods. |

Test III: Illustrate/Demonstrate the movement of blood through out the human body.

Direction: For illustration 1 and 2, refer to the box below. Read and understand the information provided. Write the correct answer.



Blood flows through the circulatory system in two closed paths: in pulmonary circulation, blood from the heart goes to the lungs through the pulmonary arteries to release the carbon dioxide and then get oxygen from the air sacs and flows back to the heart through the pulmonary veins; in systemic circulation, blood from the heart flows through the arteries and arterioles and then to the capillaries to distribute food nutrients and oxygen to the cells of the different parts of the body and collects the waste materials from the cells then goes back to the heart through the veins.

Illustration 2

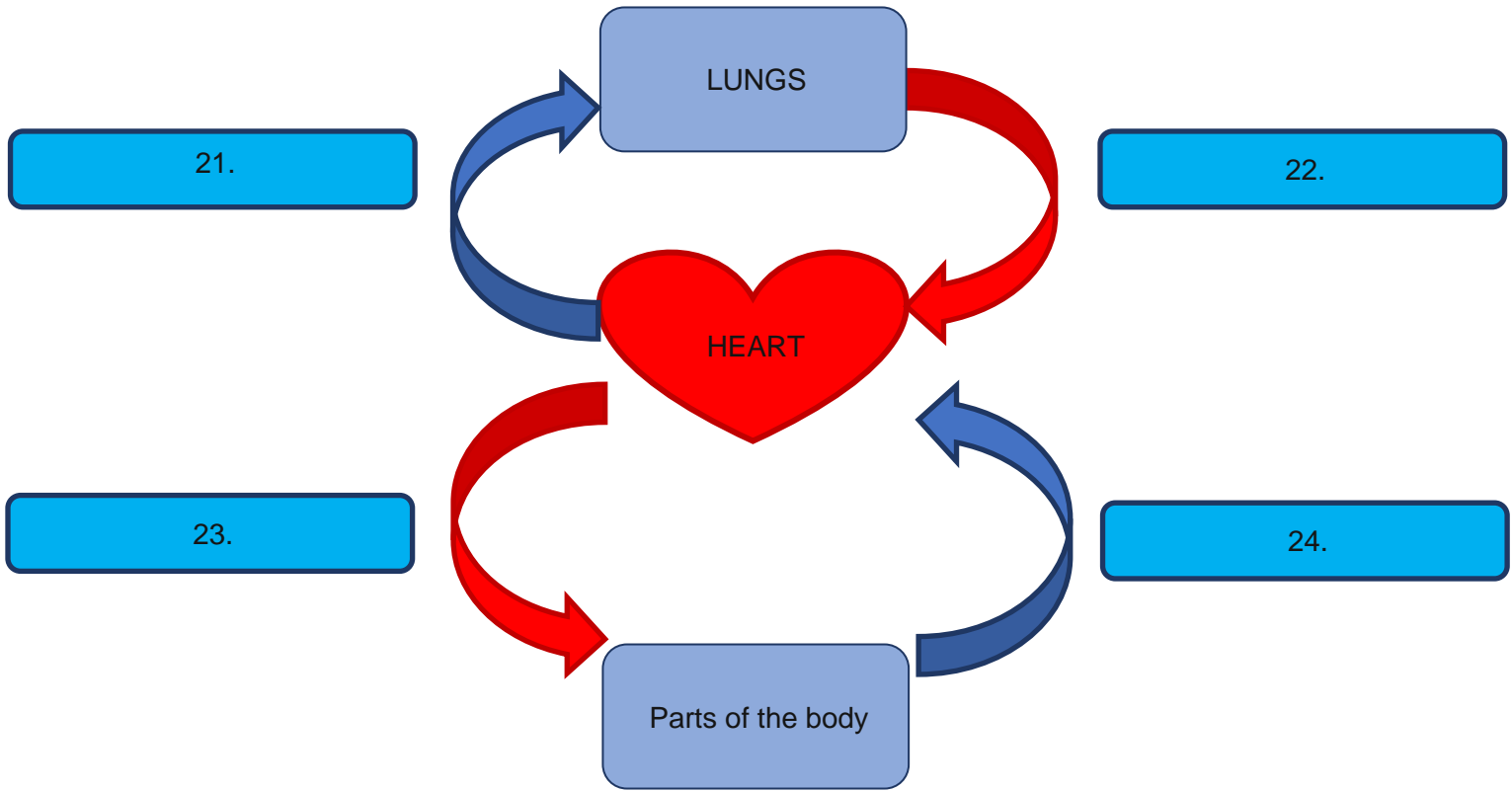


Table of Specification
The Nervous System

Learning Competencies	COGNITIVE PROCESS DIMENSIONS						Item Placement	No of Items
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating		
Explain how the organs of the nervous system work together Sub-tasks: Identify the major parts and functions the human brain.	√	√		√			Test I 1-8	8
Demonstrate activities as functions of: cerebrum, cerebellum and brains stem.			√	√		√	Test II 1-8	8
Practice desirable habits that help prevent and control common ailments of the human brain.			√				Test III 1-8	8
TOTAL								24

Name: _____ School: _____

Nervous System

Test I. Read the test items carefully. Choose the letter of the correct answer.

1. All of the following are functions of nervous system EXCEPT _____.
 - a. receives information from the environment
 - b. distributes food to brain
 - c. controls the activities of the body
 - d. coordinates the action in the body

2. Which part of the brain controls the blood pressure and the heartbeat?
 - a. cerebrum
 - b. cerebellum
 - c. medulla oblongata
 - d. spinal cord

3. Which part of the brain considered the seat of memory and thinking?
 - a. cerebrum
 - b. cerebellum
 - c. medulla oblongata
 - d. spinal cord

3. Which part of the brain is responsible for muscular movements?
 - a. cerebrum
 - b. cerebellum
 - c. medulla oblongata
 - d. spinal cord

4. Which of the following is controlled by the cerebellum?
 - a. memorizing a prayer
 - b. adding numbers
 - c. walking on a balance beam
 - d. public speaking

5. Which is NOT controlled by the brain?
 - a. thinking
 - b. involuntary movements
 - c. walking on a balance beam
 - d. reading a story

6. All of the following are controlled by the brain stem EXCEPT _____.
 - a. urinating
 - b. adding numbers
 - c. breathing
 - d. sneezing

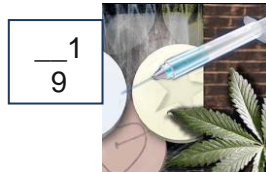
7. Which is NOT the function of cerebrum?
 - a. planning
 - b. judgement
 - c. reasoning
 - d. balance

Test II. Classify the different actions inside the box and group it according to the parts of the brain where it belongs.

worrying	b. jumping	c. laughing	d. swallowing	e. thinking
f. swimming		j. breathing		h. urinating

Cerebrum	Cerebellum	Brain Stem (Medulla Oblongata)
9.	12.	14.
10.	13.	15.
11.		16.

Test III. Identify the illustrations which show desirable habits that help prevent and control common ailment for the nervous system. Put a check (✓) on the desirable habits and cross out (X) the bad habits.



- _____ 21. Relax your nerves and spend your leisure time wisely.
- _____ 22. Drink too much alcoholic beverages.
- _____ 23. Stay up late watching movies.
- _____ 24. Always frown with people you newly meet.

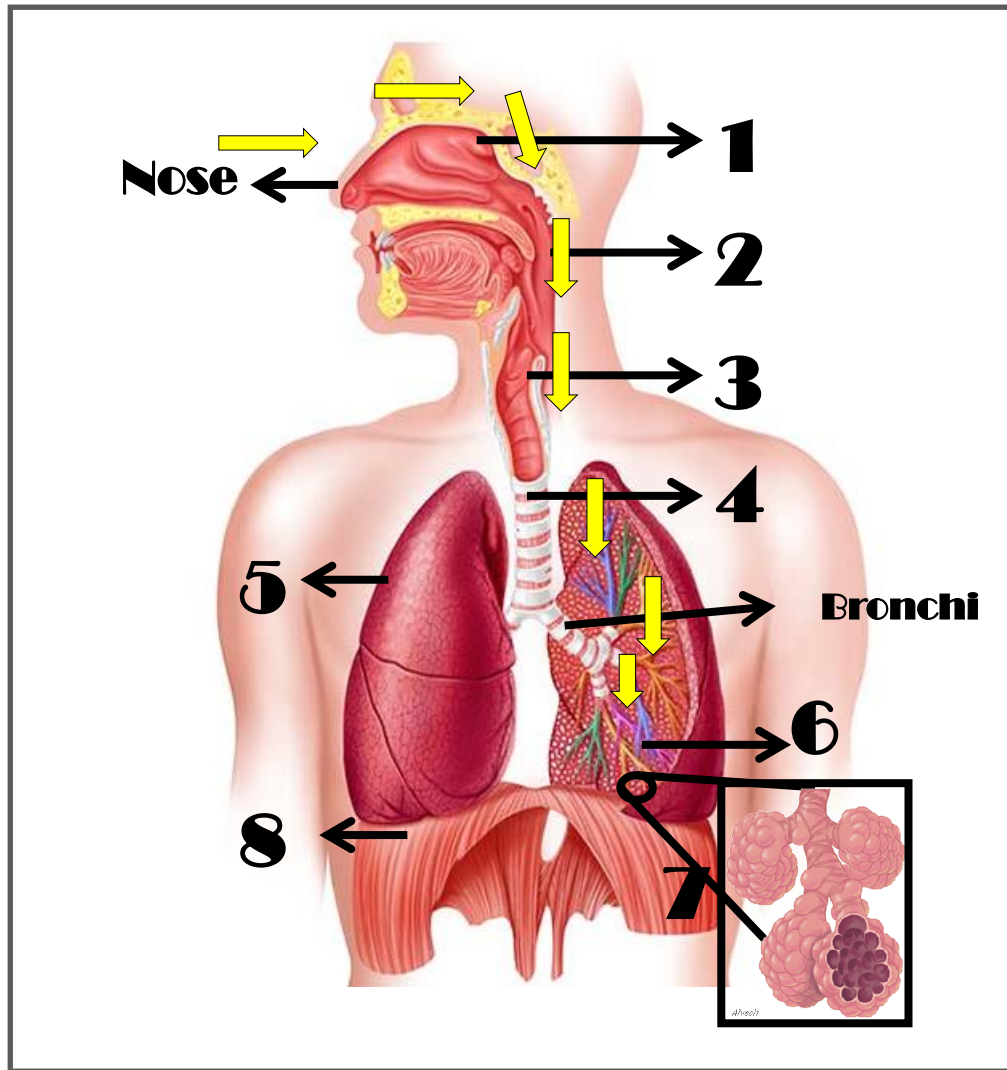
Table of Specification
The Respiratory System

Learning Competencies	COGNITIVE PROCESS DIMENSIONS						Item Placement	No of Items
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating		
Explain how the organs of the human respiratory system work together Sub-tasks: Identify the parts of the Human Respiratory System.	√			√			Test I 1-8	8
Describe the parts and functions of the Human Respiratory System		√		√			Test II 1-8	8
Discuss the flow of air as it travels from the nose to the lungs of the Human Respiratory System.		√		√		√	Test III 1-8	8
TOTAL								24

Name: _____ School: _____

Human Respiratory System

Test I. Identify and label the parts of the human respiratory system. Refer your answers in the box provided below.



Pharynx	Larynx	Nasal Cavity	Alveolus, Alveoli
Trachea	Lungs	Diaphragm	Bronchioles

Test II. Using the above illustration, discuss the flow of air the moment it enters the nostrils. Follow the yellow arrow and supply the correct information in the blank.

Your respiratory system is made up of body parts that help you breathe in oxygen and breathe out carbon dioxide. Air enters your body through your (9) _____, which has an opening called nostrils that leads to a cavity called (10) _____ where air gets moistened and warmed; it is lined by glands that produce sticky mucus. The clean, warm, moist air passes through the (11) _____; it connects the nasal cavity and trachea. From there, the air moves down in a boxlike structure called (12) _____. The air passing over the vocal chords may cause them to vibrate, thus sound is produced. Below the larynx is (13) _____; a stiff tube that leads to the lungs which branches into two tubes called (14) _____. Each tube branches into smaller tubes called (15) _____ that lead into the tiny air sacs called the (16) _____. It is arranged in grape-like clusters surrounded by capillaries where t

Test III. Read the questions carefully and choose the letter of the correct answer.

1. What body system allows a person to breathe and exchange oxygen and carbon dioxide throughout the body?

a. Digestive System	c. Respiratory System
b. Circulatory System	d. Nervous System
2. A tube about 13 cm long found at the back of the throat which connects the nasal cavity and trachea.

a. Larynx	c. Pharynx
b. Windpipe	d. Lungs
3. A box like structure commonly known as the voice box that contains vocal cords.

a. Larynx	c. Pharynx
b. Windpipe	d. Lungs
4. A stiff tube about 11cm long and 2 cm in diameter; made up of C-shaped rings of cartilage.

a. Alveoli	c. Lungs
b. Bronchi	d. Trachea
5. The major organ for respiratory system that has pinkish, sponge-like quality that provides the surface area for gas exchange and filter gaseous waste materials.

a. Lungs	c. Nasal Cavity
b. Diaphragm	d. Nose
6. A dome-shaped muscle and consider as the main muscle for breathing?

a. Lungs	c. Nasal Cavity
b. Diaphragm	d. Nose
7. They are short tubes that direct air into _____ the right and left lungs.

a. Bronchi	c. Capillaries
b. Alveoli	d. Alveolus
8. An air sac in the lungs where gases exchanged and surrounded by tiny blood vessels called capillaries.

a. Alveolus	c. Epiglottis
b. Bronchioles	d. Pleura

Questionnaire
(for students)

Students' Perception on the Effectiveness of Strategic Intervention Materials in Science

This questionnaire aims to identify and assess the perceptions of students' in using Strategic Intervention Materials. Specifically it will also determine the effectiveness of SIM as an instructional material. Please answer the following questions by filling in the blanks and by putting a check in the boxes provided. Please be assured that all responses shall be treated with confidentiality. Thank you very much.

Name (optional): _____

PART I: Students' Profile: (pls. write/ check)

Age: _____

Sex: Male Female

PART II. Students' Perception on the Use of Strategic Intervention Materials

Directions:

Read each statement. Please respond as truthfully as you can.

Place a check mark (√) on the column of your choice. Be guided with the following scale.

Verbal Description	Scale	Explanation
5-Strongly Agree (SA)	(4.21-5.00)	The respondent is 81-100% agree with the effectiveness of SIM.
4- Agree (A)	(3.41-4.20)	The respondent is 61-80% agree with the effectiveness of SIM.
3- Moderately Agree (MA)	(2.61-3.40)	The respondent is 40-60% agree with agree with effectiveness of SIM.
2-Disagree (D)	(1.81-2.60)	The respondent is 21-40% agree with agree with effectiveness of SIM.
1-Strongly Disagree (SD)	(1.00-1.80)	The respondent is 1-20% agree with effectiveness of SIM.

Indicators	5 (Strongly Agree)	4 (Agree)	3 (Moderately Agree)	2 (Disagree)	1 (Strongly Disagree)
<i>To what extent do students' perceive the following:</i>					
1. The SIM helps me understand the main parts and functions of circulatory system, nervous system and respiratory system that were not understood during regular classroom teaching.					
2. Confusing concept of circulatory system, nervous system and respiratory system was clearly presented.					
3. The instructions are simple and easy to follow.					
4. The SIM offers interesting activities.					
5. The SIM is student-friendly material.					
6. After using the SIM, I learn the concepts that were not fully understood in the regular classroom instruction.					
7. I enjoyed reading and doing all the activities provided in the SIM.					
8. I can set up my own pace in learning without feeling pressured about time.					
9. The SIM inspired and encouraged me to learn more concepts in Science VI.					
10. I want to use SIM during remediation class.					

Comments or Suggestions:
