

St. Joseph's College of Education for Women

Opp. Sambasivapet 2nd Lane, Naaz Center, Guntur, A.P., India.
(Under the Management of Society of Jesus Mary & Joseph)



2.4.5

Sample evidence to show that adequate skills are developed in students for effective use of ICT for teaching learning process



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1. Effective use of ICT in Preparation of lesson plans

Model Lesson Plan
– Biology

Teacher's Name: JULIE M P Date: 09/10/2023
Class: X Section: A1

Life Process

Sub Topic: Structure and Function of the Heart **Learning Points:**

1. External Features of the Heart
2. Internal Structure and Functions of the Heart
3. Arteries and Veins associated with the Heart

Teaching -Learning Objectives: After teaching the students will be able to

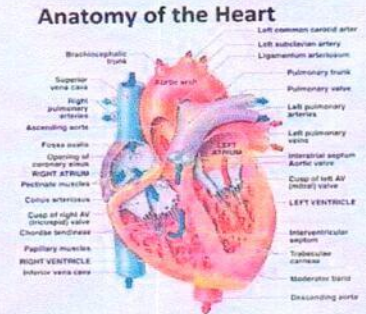
➤ **Knowledge:**

1. The pupil recalls Human Heart is four Chambered Heart.
2. The Pupil recognizes the shape of the Human heart.
3. The pupil recalls the functions the arteries and veins.

➤ **Comprehension: Comprehend**

1. The pupil explains the structure of Human heart with the help of Chart.
2. The pupil identifies the different parts of the Heart.
3. The pupil describes the structure and function of Human Heart
4. The pupil differentiates the structure and function of Left and Right part of the Heart.
5. The pupil explains the role of Bicuspid and Tricuspid valves in preventing the backflow of blood from ventricles to Auricles.

Human Heart: Diagram and Anatomy of the Heart



(a) Frontal section through the heart

The diagram shows a frontal section of the human heart. On the left side (labeled 'RIGHT ATRIUM' and 'RIGHT VENTRICLE'), it shows the superior vena cava, right pulmonary artery, tricuspid valve, right atrium, pulmonary trunk, pulmonary valve, left pulmonary artery, and left pulmonary vein. On the right side (labeled 'LEFT ATRIUM' and 'LEFT VENTRICLE'), it shows the left common carotid artery, left subclavian artery, ligamentum arteriosum, pulmonary trunk, pulmonary valve, left pulmonary artery, left pulmonary vein, interatrial septum, aortic valve, cup of left AV (bicuspid) valve, and left ventricle. Other labeled structures include the brachiocephalic trunk, ascending aorta, foramen ovale, opening of coronary sinus, pectinate muscles, cotyledon arteriosus, cord of right AV (tricuspid) valve, chordae tendinae, papillary muscles, inferior vena cava, and descending aorta.



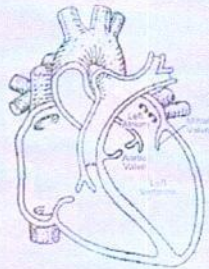
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➤ **Application: Apply:**

1. The pupil analyses the different parts of the Heart.
2. The pupil gives reason for not mixing the pure and impure blood in the heart.
3. The pupil concludes that the only artery carries impure blood is Pulmonary artery and the only vein carries pure blood is pulmonary veins.
4. The pupil predicts the reason to call Sino auricular node as pace maker.

➤ **Skills: Develop skills like,**

1. The pupil carefully observes the diagram of the heart.
2. The pupil draws a neat labelled diagram of Human Heart.
3. The pupil correctly identifies the different parts of the Heart.



3

Teaching Learning Resources:

Charts showing vertical section of Human Heart, Video showing location, Structure and function of Heart, video of Blood flow and Heart Beat, Model of Heart, Work sheets etc)

Method and Approaches:


Structural - Functional Approach, Lecture cum discussion, Inductive approach, Co-operative learning approach, Experiential Learning, Multi-media approach etc)



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		Teaching Learning Experiences	Specifications of Learning process
Phase 1:	Foundation / Stimulation and activation	Teacher after making an introductory statement, asks questions related to structure and function of cell, tissue and organs in our body. By having eliciting different organ systems, teacher provides worksheet to match different organs to its respective organ system.	Recalls and recognises the structure and function of different cells, tissues and organs
Phase 2	Introducing and presenting New Information	Learning points will be presented in the following ways to make them learn. Statement of the Aim: In today's class let us learn about the Structure and Function of the Heart in order to understand the circulatory system in Man. Now let us discuss about the structure and function of heart. The learning points which we are going to learn: <ul style="list-style-type: none"> ➤ Meaning of Heart ➤ External Features of Heart ➤ Internal structure and its parts ➤ Function of Heart ➤ Blood vessels- Arteries and Veins associated to heart and their function 	Identifies the learning points and analyses its relationship
Phase 3	Clarification of the points presented	Teacher provides learning experiences and clarification of the following learning points by using appropriate explanation, Questions, Visual aids- Charts, Videos, activities and worksheets. <ul style="list-style-type: none"> ➤ Meaning of Heart: Heart is a double pumping muscular organ situated in between lungs and covered by fluid filled pericardial membrane. ➤ External Features of Heart: Its size is about the fist and weighs around 300 grams. ➤ Internal structure and its parts: basically it consists of two parts: left part and right part. Left part consists of left atrium and left ventricle, it collects and pumps oxygenated blood or pure blood, whereas right part consists of 	Clarifies the doubts if any through questioning and constructs their knowledge by participating in the provided activities.



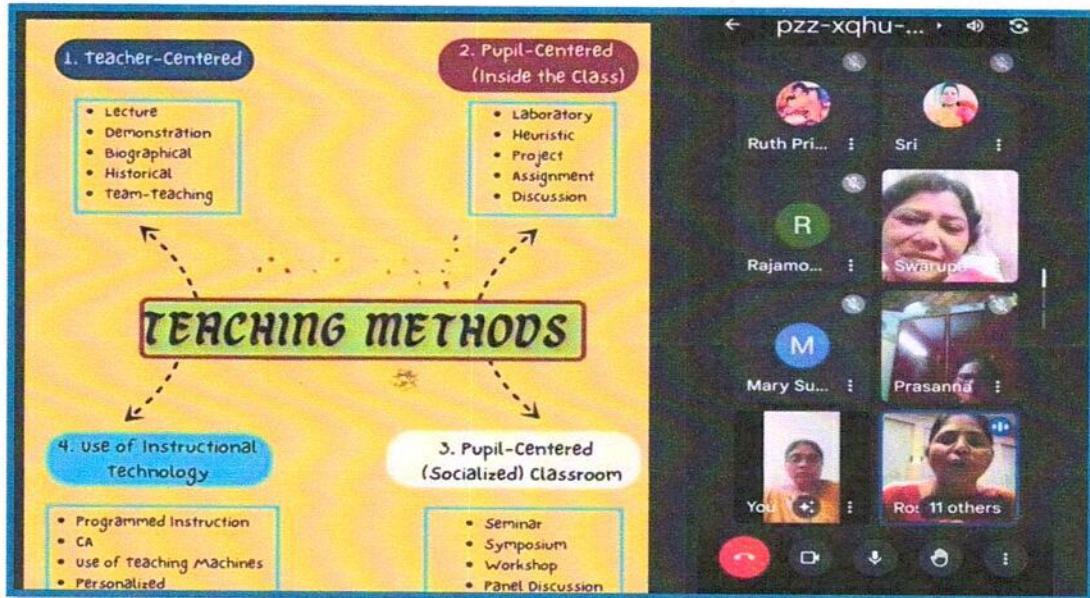
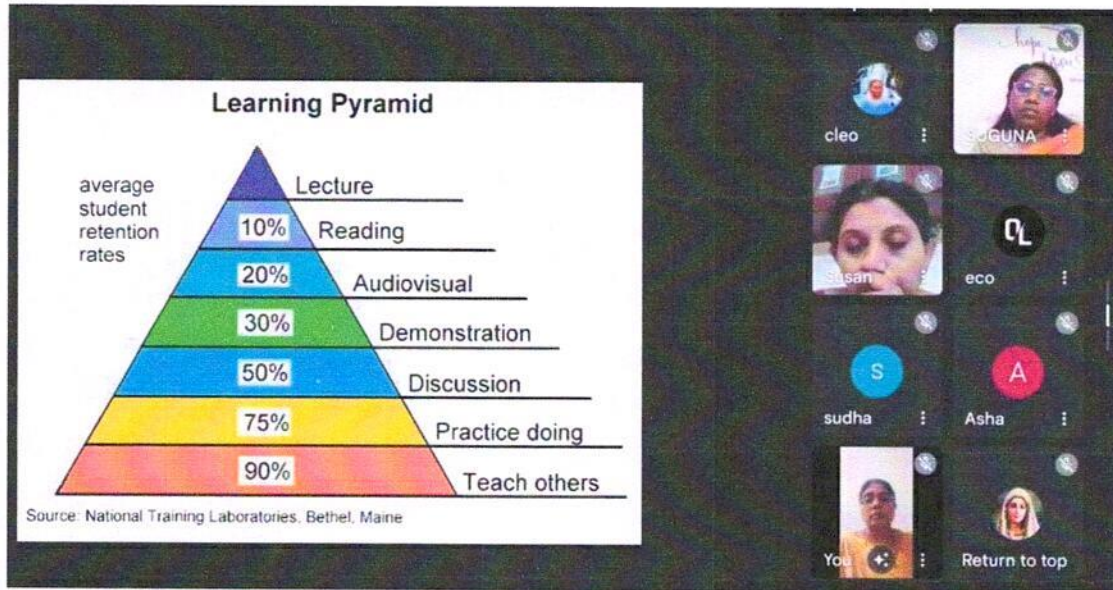

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		<p>Right atrium and right ventricle, it collects and pumps deoxygenated or impure blood.</p> <p>Blood vessels- Arteries and Veins associated to heart and their function: Aorta originates from left ventricle and carries pure blood to different parts of the body.</p> <p>Pulmonary artery carries impure blood to lungs for purification, which originates from right ventricle. Pulmonary veins brings pure blood from lungs to right atrium and Superior and inferior vena cava brings impure blood to right atrium.</p> <p>➤ Valves of Heart: Bicuspid valve present in between Left Atrium and right ventricle and Tricuspid valve is present inbetween right atrium and right ventricle. Both these valves prevents backflow of blood from ventricles to atrium</p>	
Phase 4	Practice / Review and Independent Practice	<p>Teacher explains additional information by referring to unique features in structure and function of heart in order to develop clarity in learning. Shows video and asks following questions:</p> <ul style="list-style-type: none"> • What happens if the walls of ventricles are made up of thin muscular layer? • What happens, if valves allow back flow of blood? • How do heart beat happens? • What is the distinct feature of pulmonary artery and pulmonary veins? • What if heart is not supplied with oxygenated blood? 	Perceives additional information by providing responses to higher level questions and also comes to an generalisation by having discussion among group members.
Phase 5	Closure	Concludes the learning points and summarises the learning aspects through activities like function of pericardial membrane and fluid, writing and labelling the structure of heart etc. and encourages students to ask doubts and responds through appropriate media to provide responses for each student.	Participates in the discussion and analyses the content learnt. Provides appropriate responses.

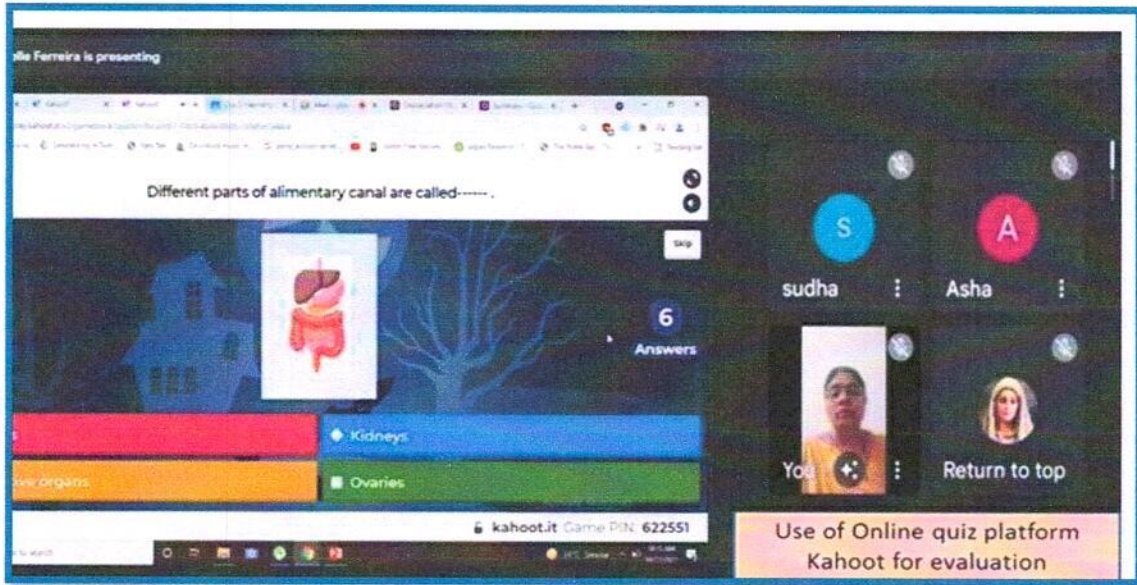


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2. Effective Use of ICT in developing assessment tools for both online and offline learning



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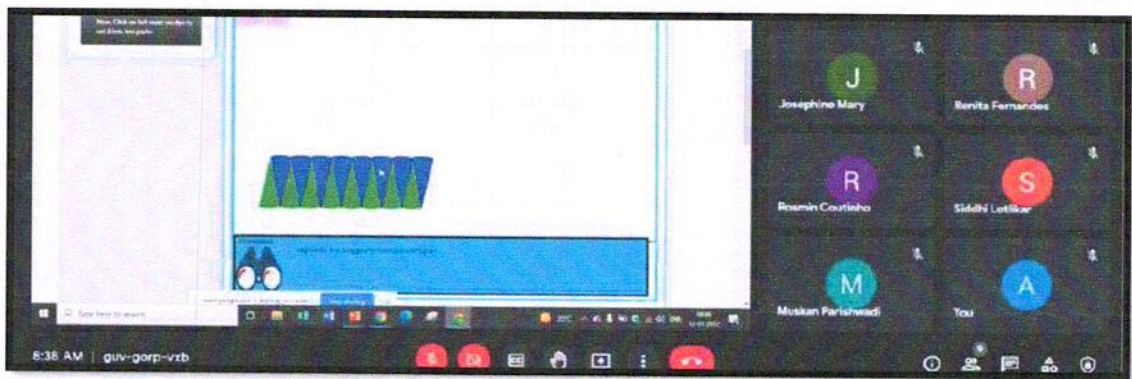
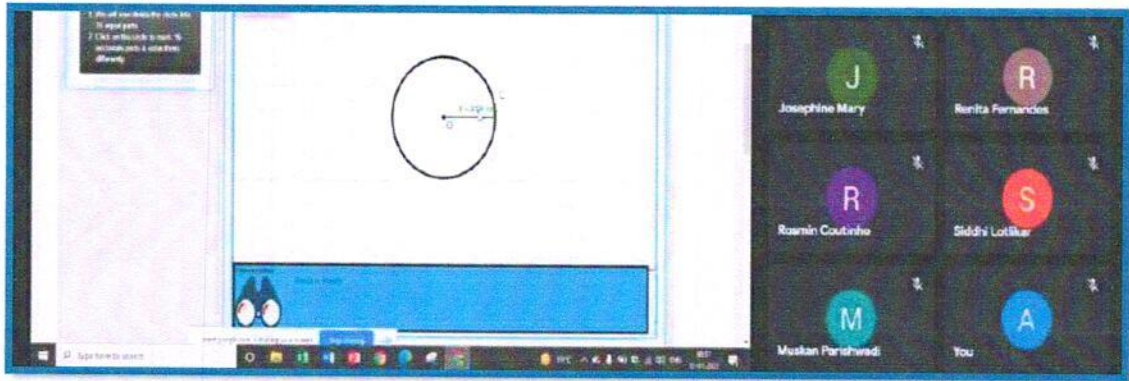


Teaching and Assessment through Online Resources



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3. Effective use of social media/learning apps/adaptive devices for learning



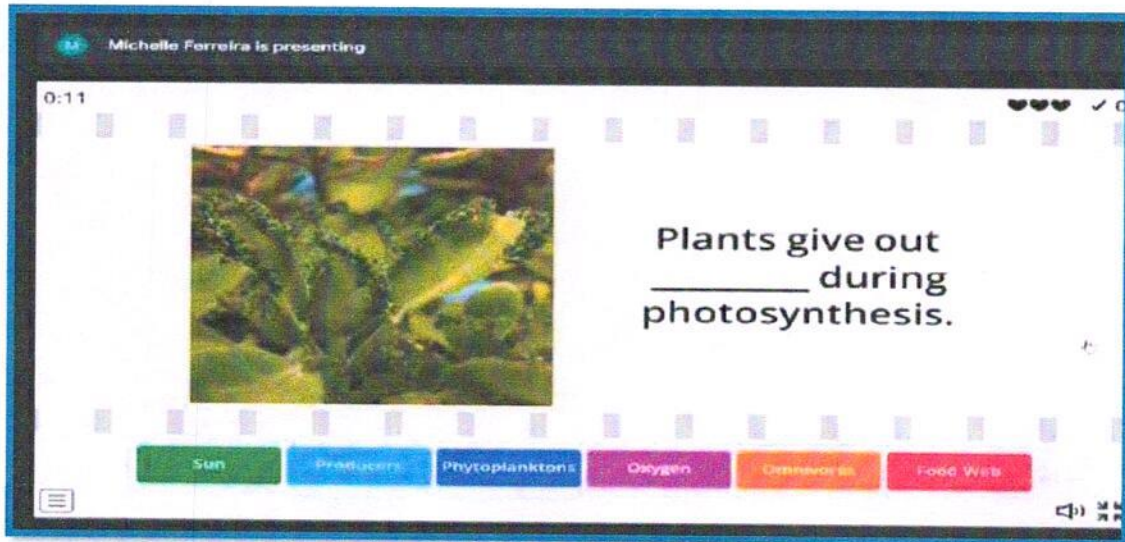
Use of Mathpad app for activity based learning



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Use of Education Apps for students to have online discussion



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4. Identifying and selecting/ developing online learning resources

Students have used different platforms to develop learning resources. Few screenshots of online resources made by students are shown below

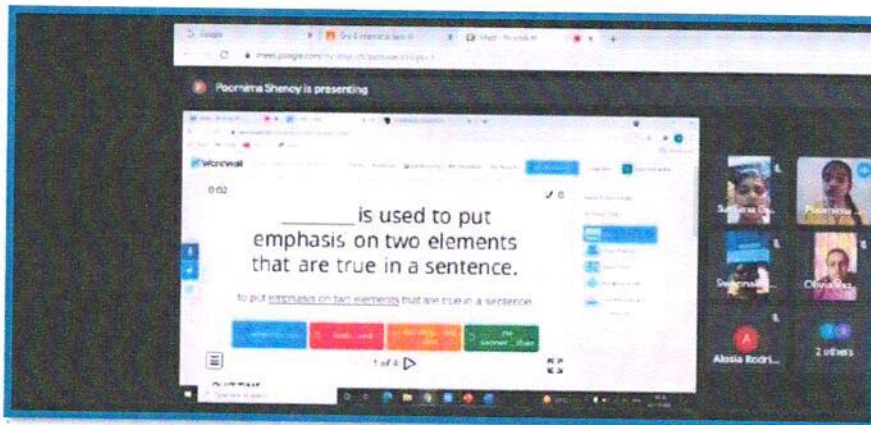


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5. Effective use of ICT in evolving learning sequences (learning activities) for online as well as face to face situations



Jamboard used for discussion during Mathematics lesson
Online evaluation through a quiz



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