

Active Learning:

case study in Microbiology and Parasitology



Dr.-Ing. Thanet Urit

March 12, 2014

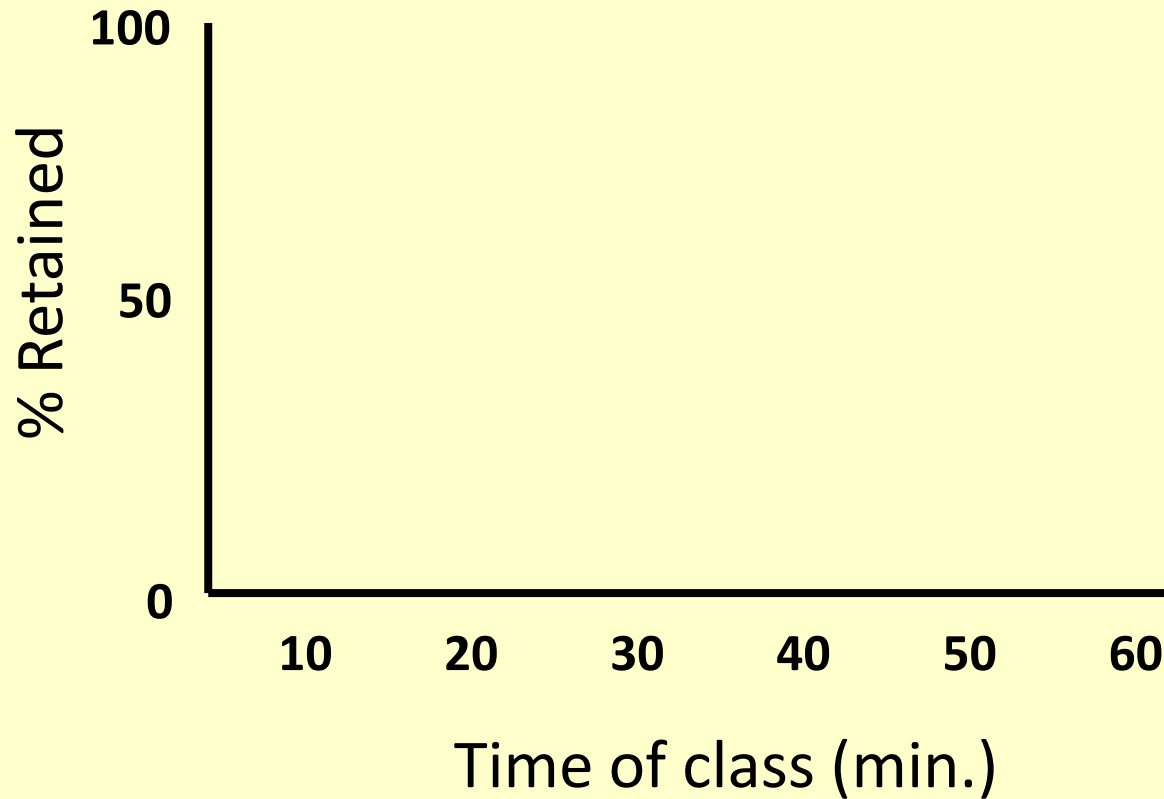
Faculty of Science and Technology, Nakhon Sawan Rajabhat University

Overview

- Concept of active learning
- Demonstrate techniques and activities
- Incorporate: Microbiology and Parasitology
- Tips for teachers

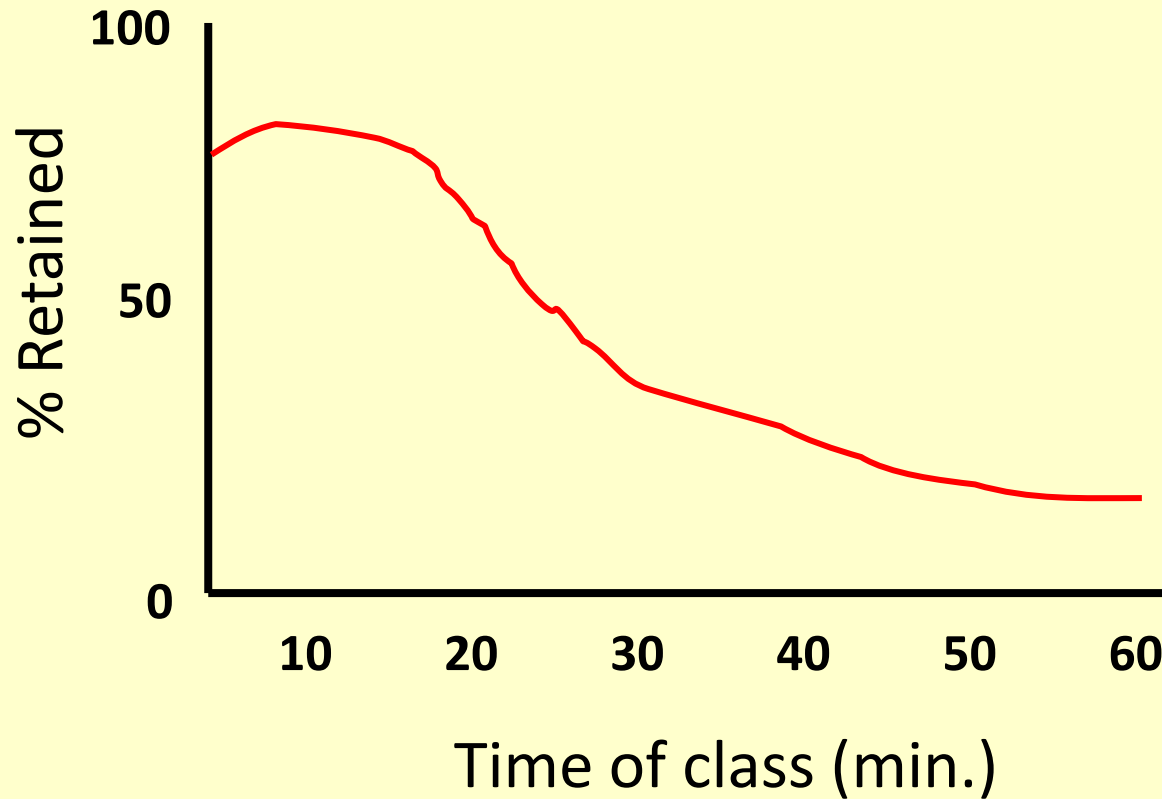
What is Active Learning?

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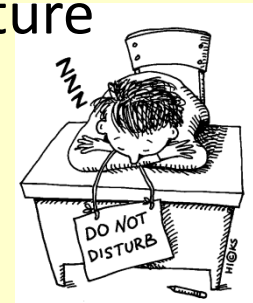


McKeachie, *Teaching tips: Strategies, research and theory for college and university teachers*, Houghton-Mifflin (1998)

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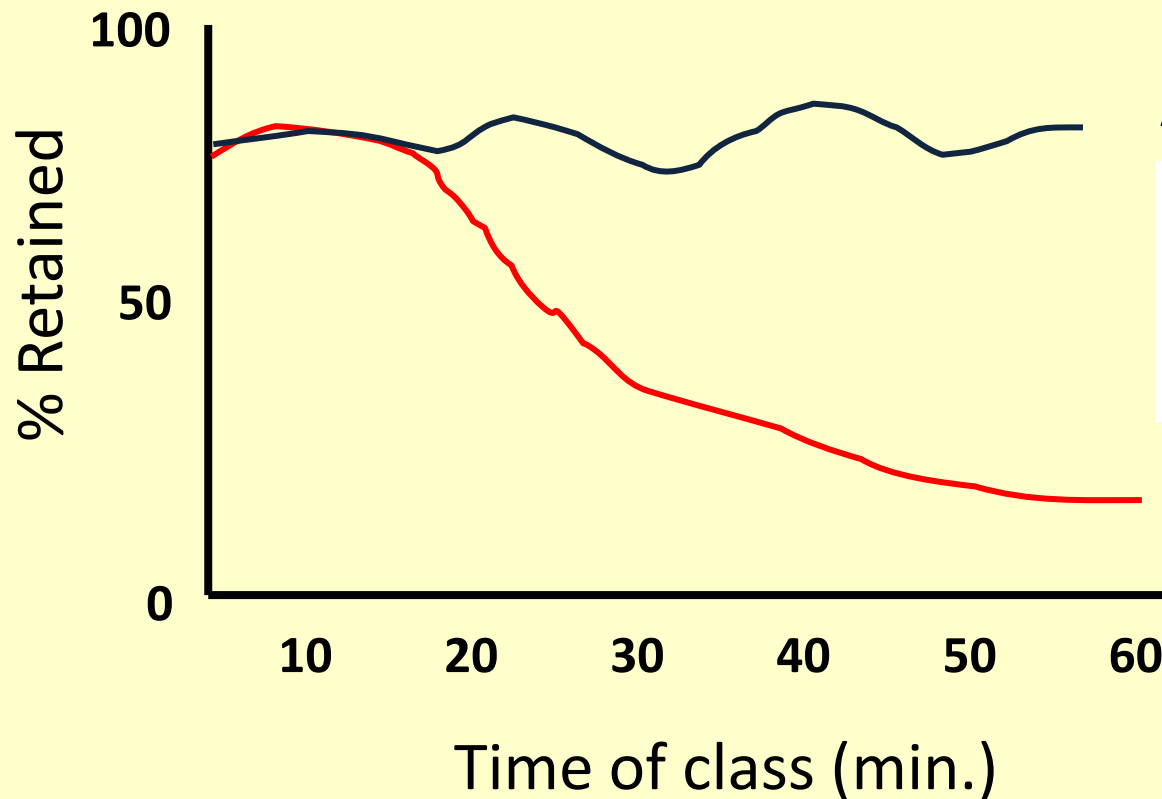


Lecture



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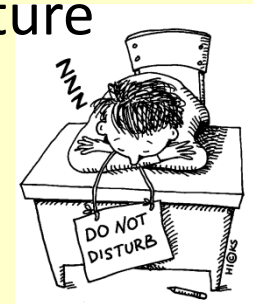
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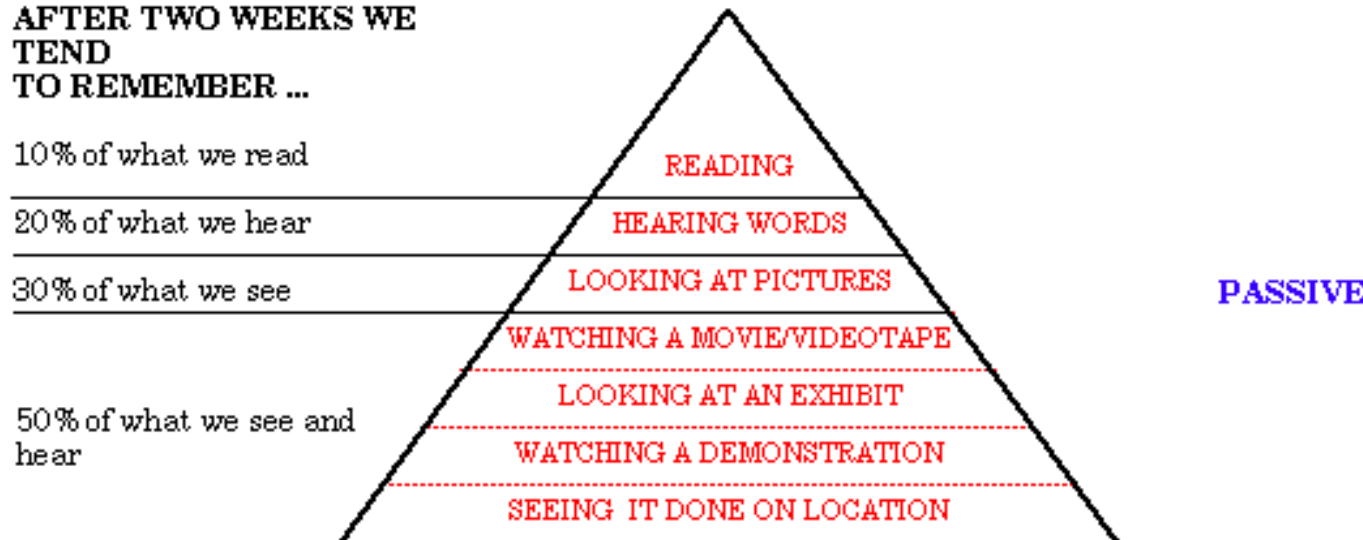
AFTER TWO WEEKS WE
TEND
TO REMEMBER ...

10% of what we read

20% of what we hear

30% of what we see

50% of what we see and
hear



Adapted from: Edgar Dale *Audio-Visual Methods in Teaching*, Holt, Rinehart and Winston.

What is Active Learning?

AFTER TWO WEEKS WE
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10% of what we read

READING

20% of what we hear

HEARING WORDS

30% of what we see

LOOKING AT PICTURES

PASSIVE

WATCHING A MOVIE/VIDEOTAPE

50% of what we see and
hear

LOOKING AT AN EXHIBIT

50%

WATCHING A DEMONSTRATION

SEEING IT DONE ON LOCATION

70% of what we
say

PARTICIPATING IN A DISCUSSION

GIVING A TALK

ACTIVE

90% of
what we
say and
do

DOING A DRAMATIC PRESENTATION

SIMULATING THE REAL EXPERIENCE

DOING THE REAL THING

>50%

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Why use Active Learning?

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Involve me, I understand.

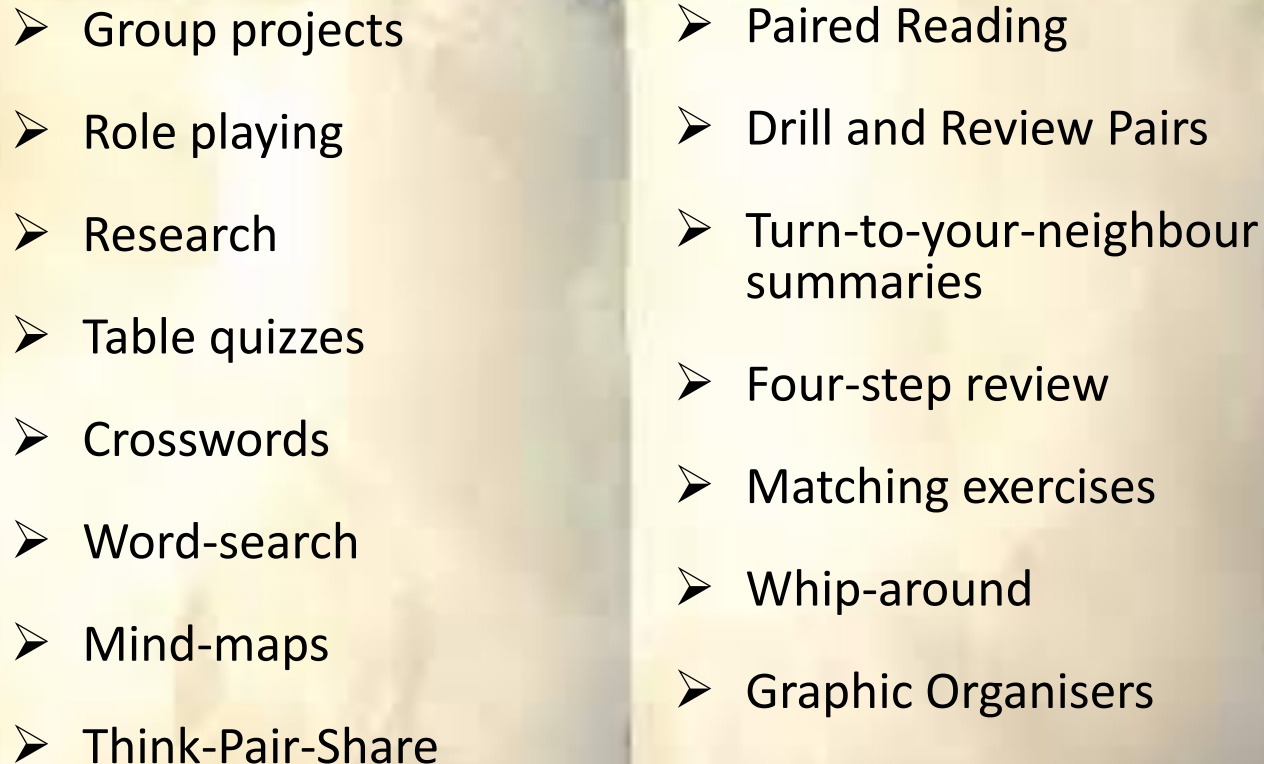
Why use Active Learning?

- ✓ Behind every good teacher is an exhausted class!
- ✓ Tell me, I forget. Show me, I remember.
Involve me, I understand.
- ✓ Give a man a fish; you have fed him for today. Teach a man to fish; and you have fed him for a lifetime.

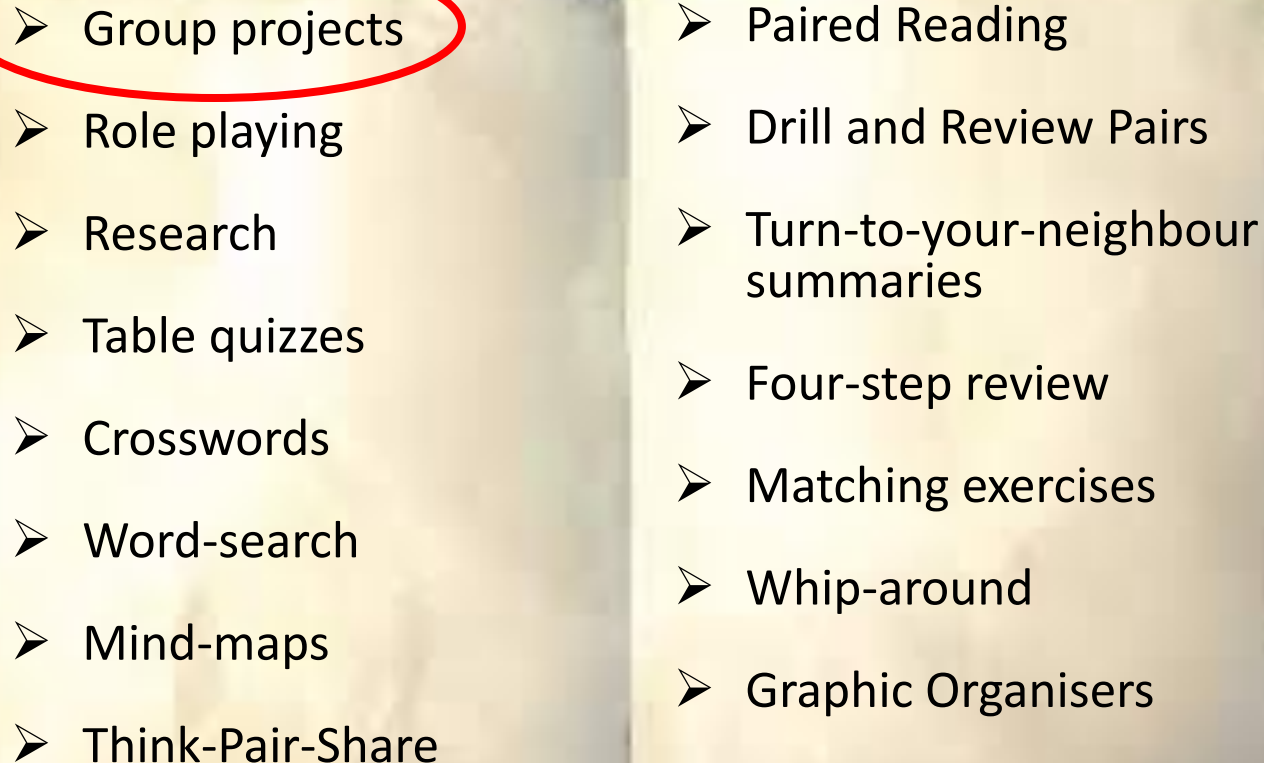


Active Learning Strategies?

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- 
- Group projects
 - Role playing
 - Research
 - Table quizzes
 - Crosswords
 - Word-search
 - Mind-maps
 - Think-Pair-Share
 - Paired Reading
 - Drill and Review Pairs
 - Turn-to-your-neighbour summaries
 - Four-step review
 - Matching exercises
 - Whip-around
 - Graphic Organisers

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Group-work

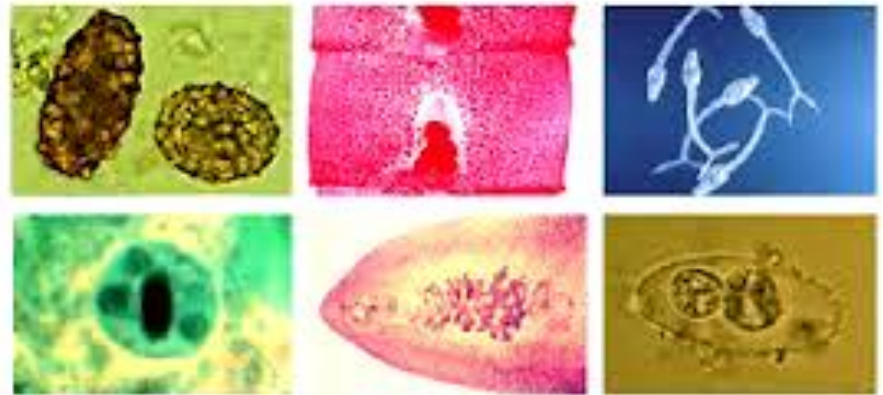
The size of the group will depend on a number of factors – **TEAM**

- ❖ **T** – time
- ❖ **E** – experience
- ❖ **A** – age
- ❖ **M** – materials



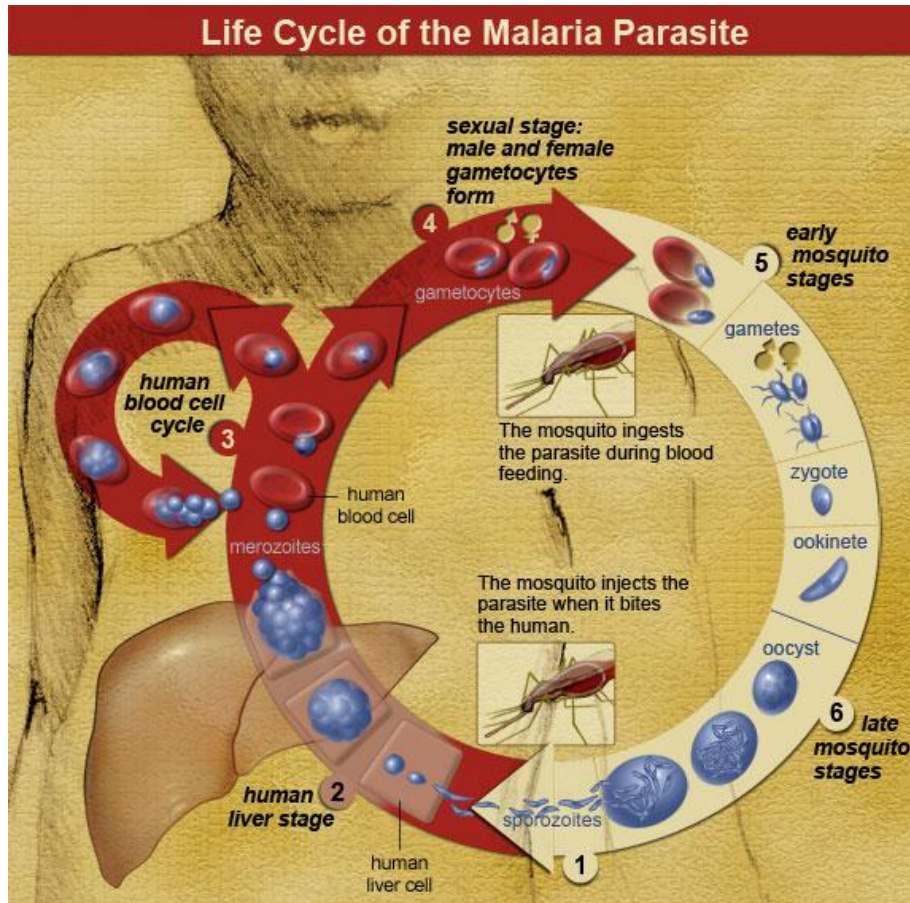
Ideal topics for group projects

- ❖ Parasitology
- ❖ Characteristic
- ❖ Life's cycle
- ❖ Model
- ❖ Diseases
- ❖ Prevention
- ❖ Group questions
- ❖ Summary



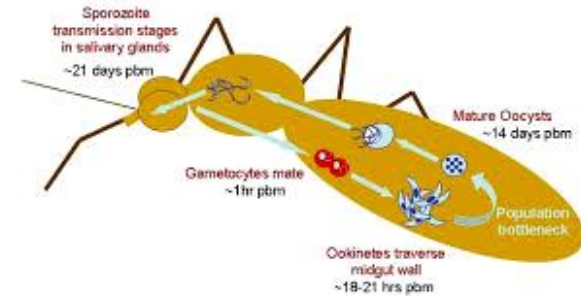
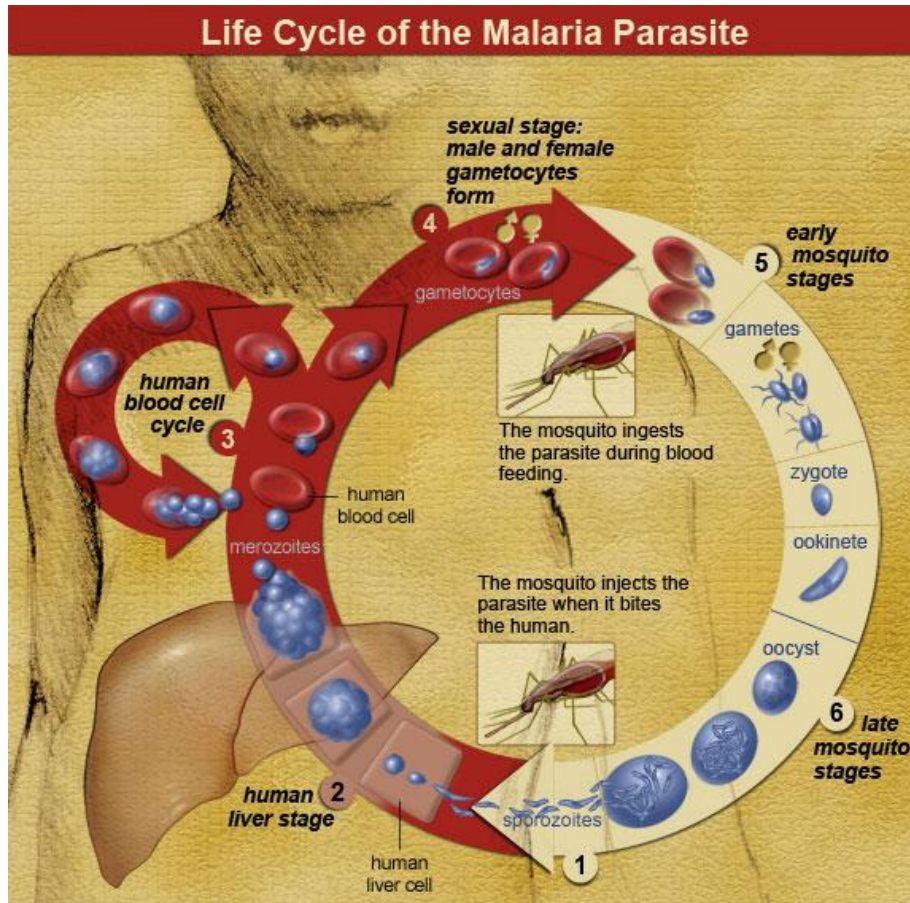
Parasitology: Malaria disease

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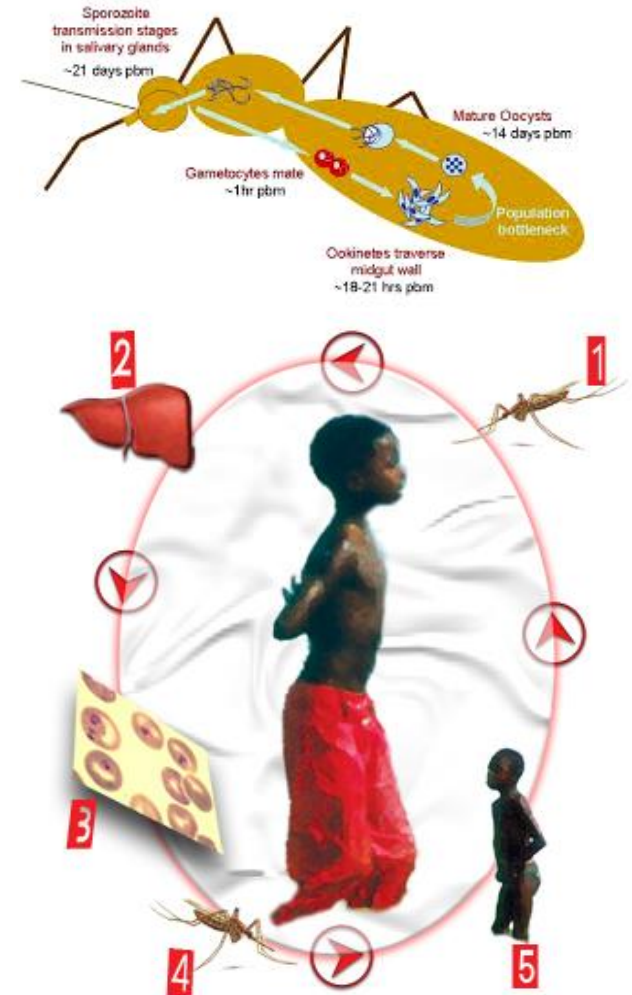
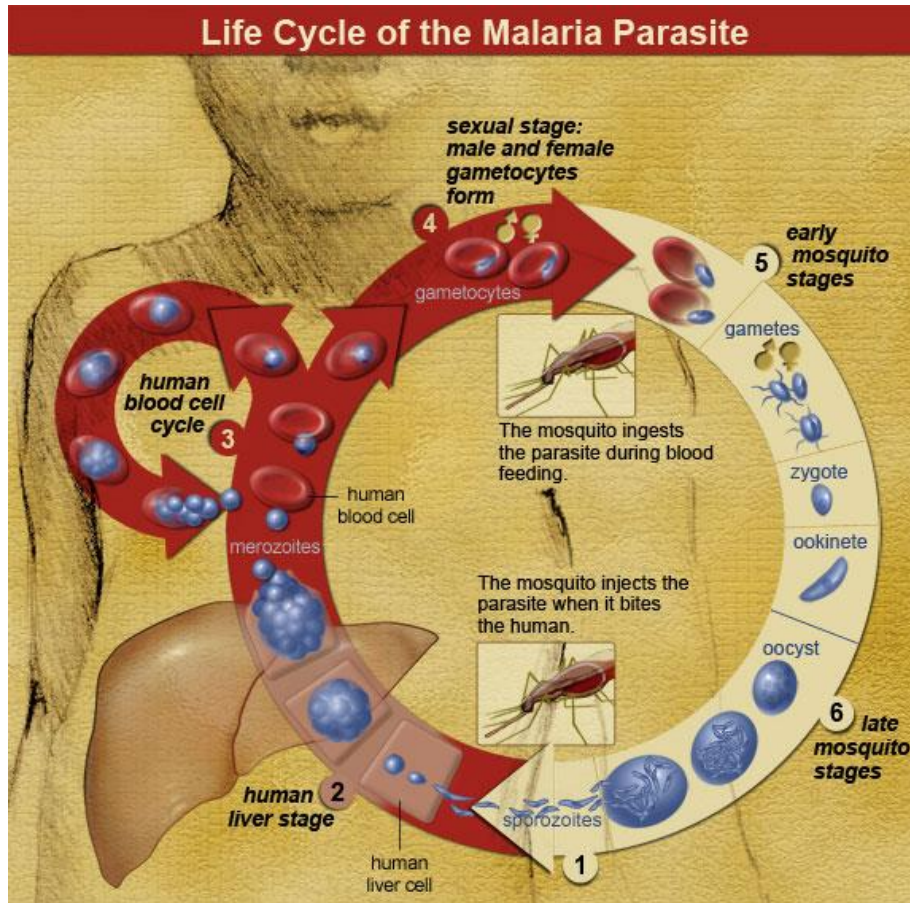
<http://www.niaid.nih.gov/topics/malaria/pages/lifecycle.aspx>

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Group projects: Parasitology

- Department of Health Sciences :
39 members of student
- Period: 6 times
- Group projects technique
- Evaluations



Group projects: Parasitology

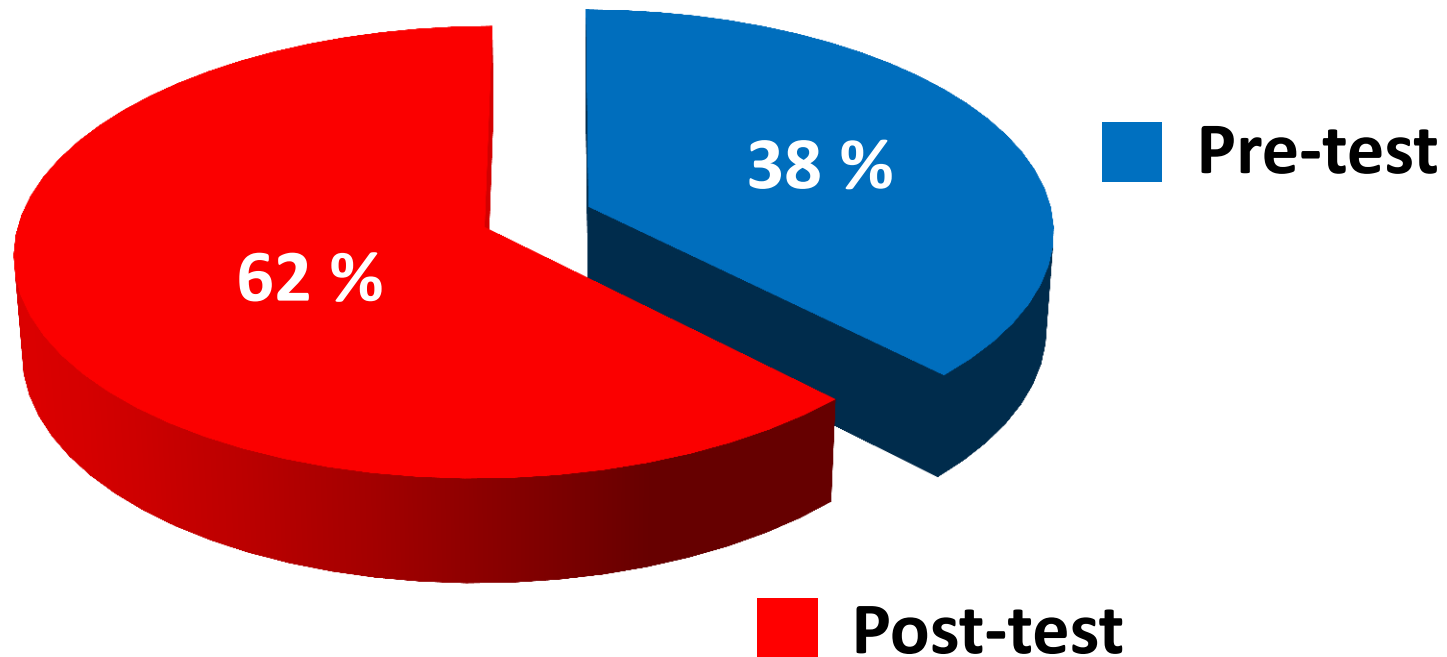


Group projects: Parasitology



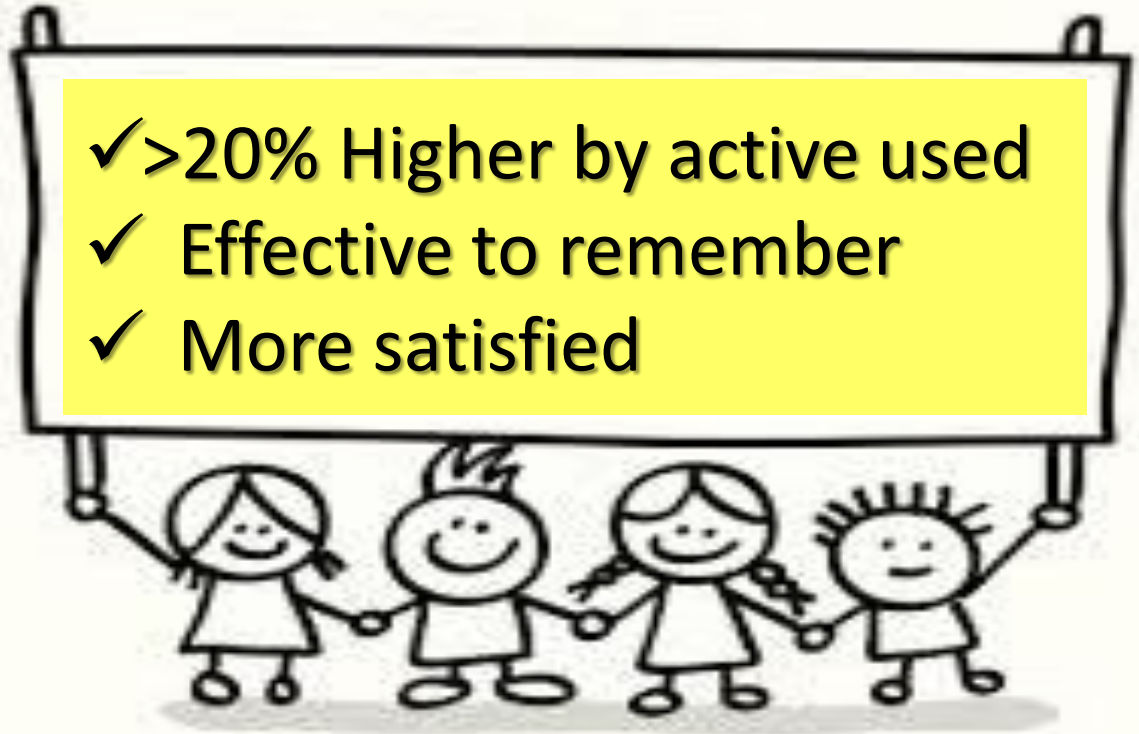
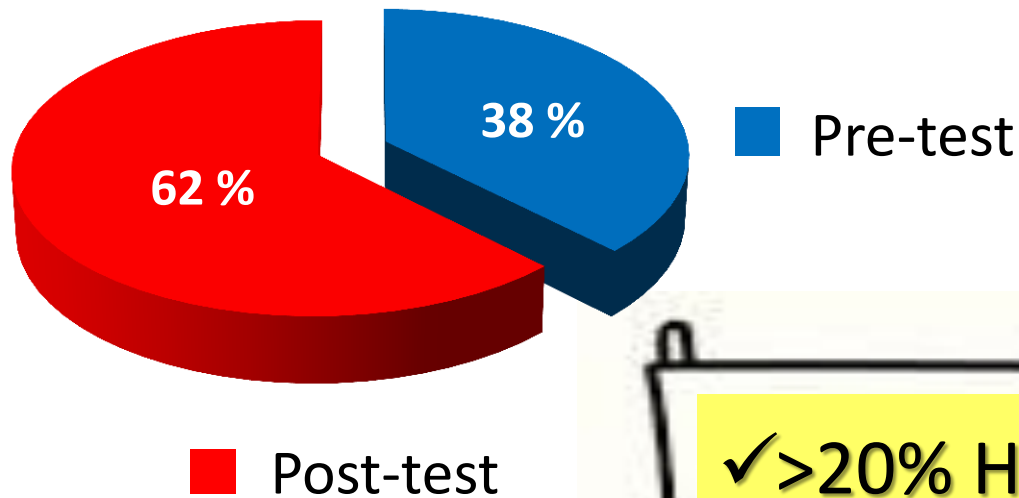
Model

Group projects: Summary



Data from evaluations form in order to monitor how effective of active learning used

Group projects: Summary



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- ✓ **Carefully monitor** groups while they are working.
- ✓ Only distribute one resource per group, which **encourages positive** interdependence.

Acknowledgement



Nakhon Sawan Rajabhat University

Students of Health Sciences Program



Thank you for your attention !!!