

PROJE

# A NEW LEARNING MODEL ON PHYSICAL EDUCATION: 5E LEARNING CYCLE

TARİH

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İSTEMCI

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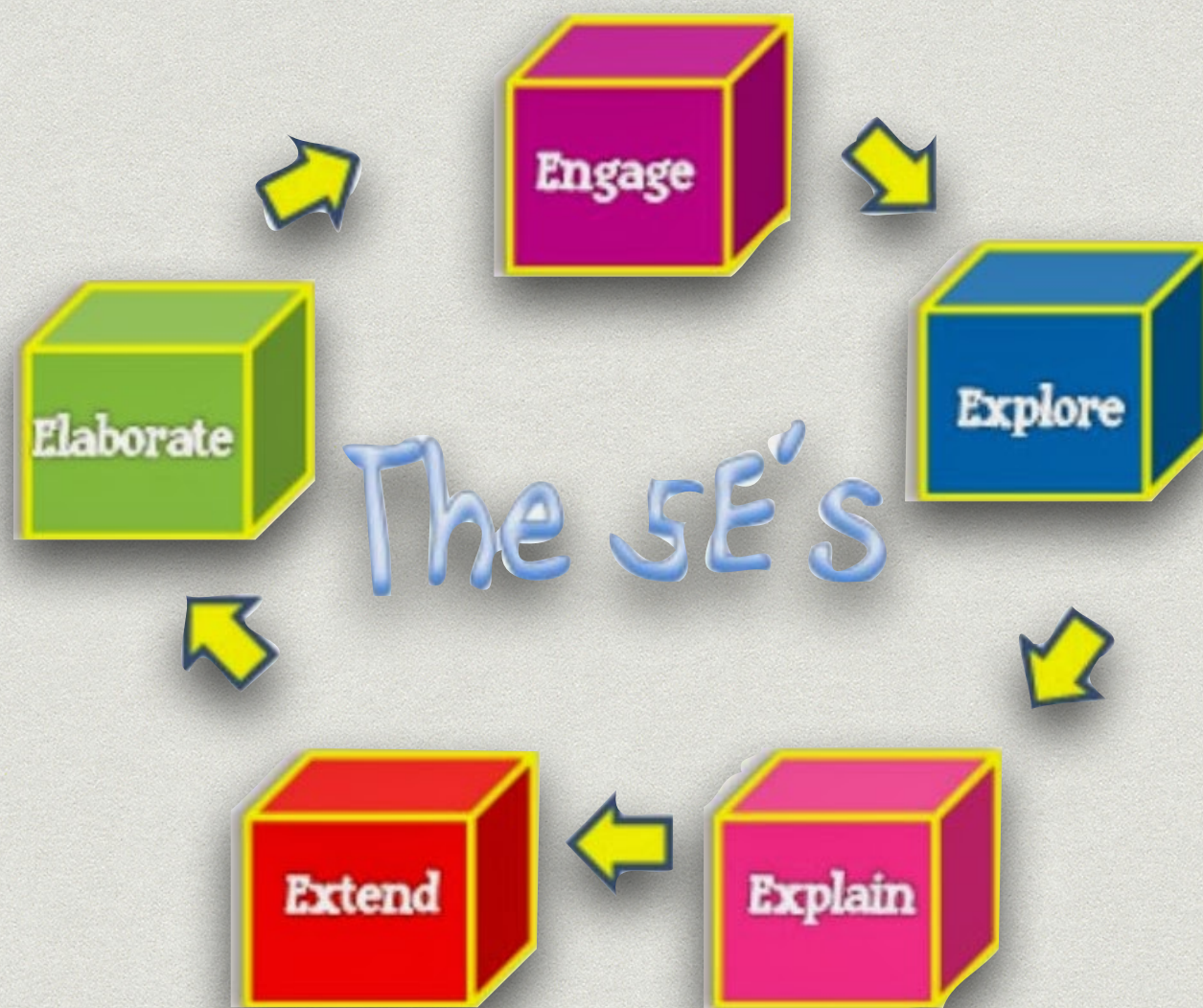
# The purposes of this study...

- \* ...are to conceptualize the 5E learning cycle in physical education as a new constructivist approach and to prepare sample teaching plans for use in physical education classes.





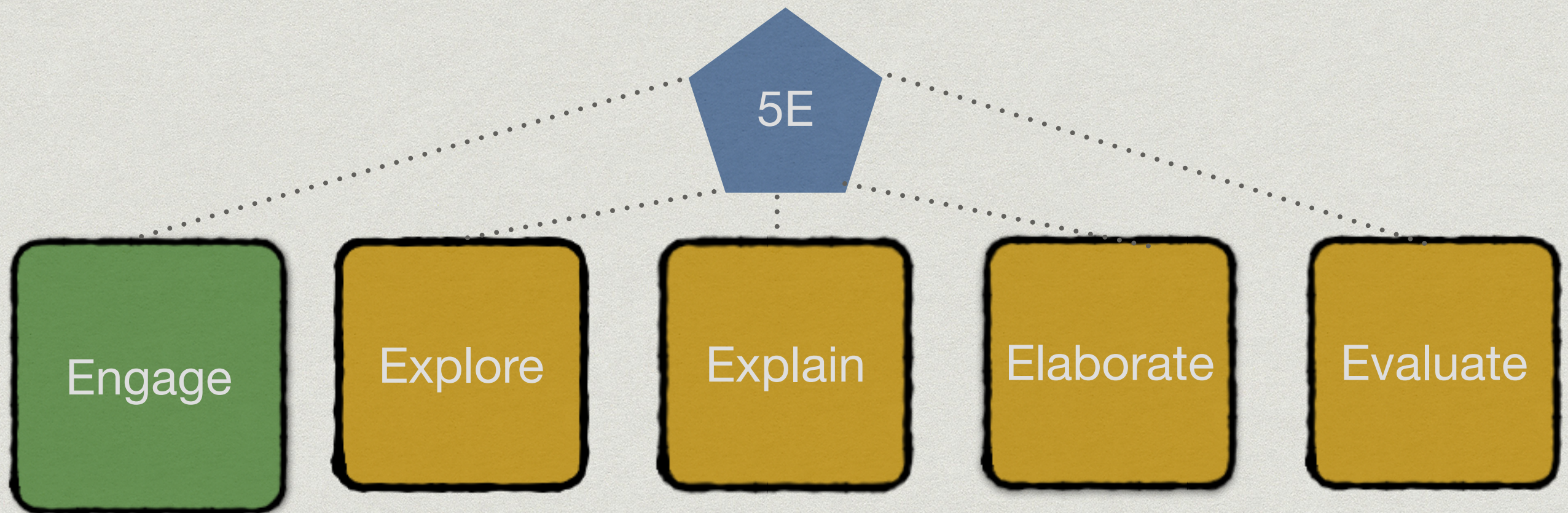
# 5E learning cycle...



- \* In variety fields of education at the present time, most especially in physical and technological educations, 5E learning cycle is being used by many teachers as well.
- \* The process is defined as five "E"s. These represent the verbs engage, explore, explain, elaborate and evaluate (Bybee, 2001).



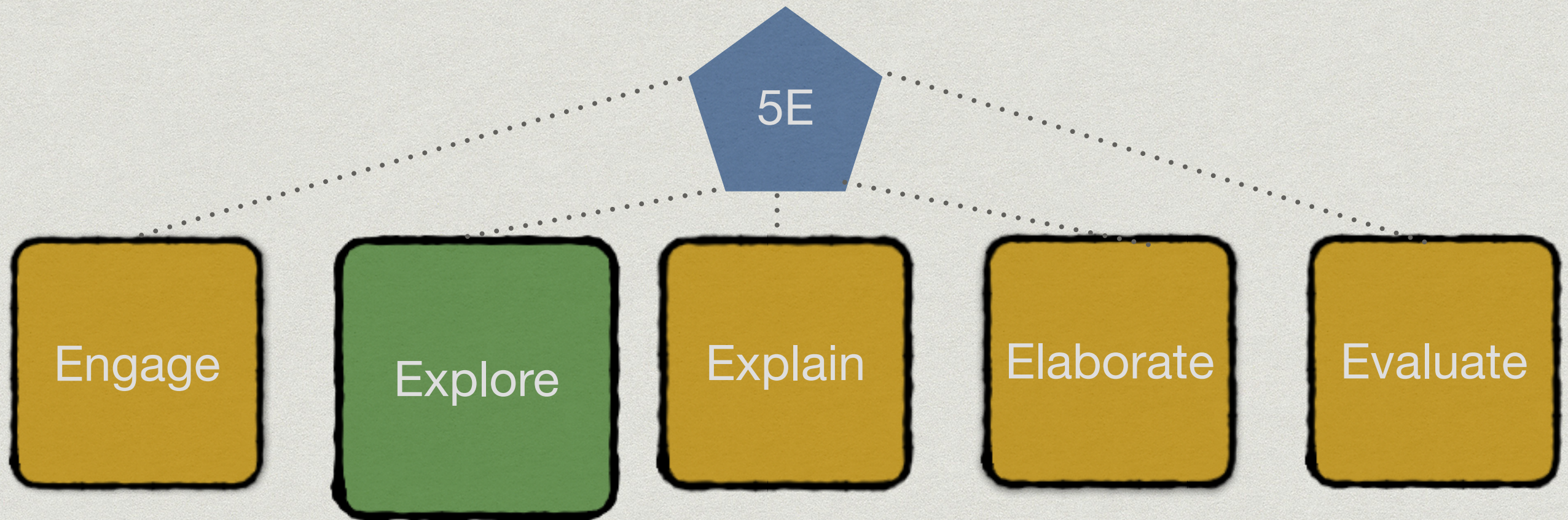
# 5E learning cycle...



First of all, in engaging stage, to draw the students' attention, teacher asks considerable questions about daily life, and an amazing event or they give the chance of thinking about some visual elements without making any explanation about the topic (What is the heartbeat?, Why do people get tired?, etc.).



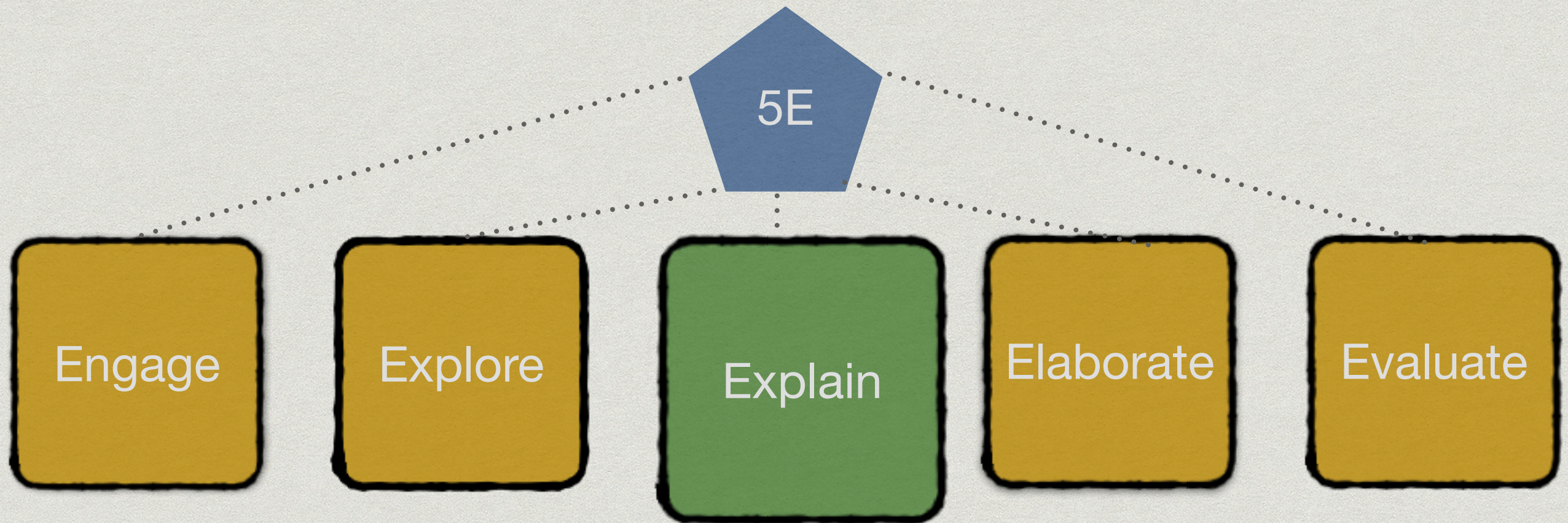
# 5E learning cycle...



In exploring stage, students offer activities about the physical activity and they provide to reach the information on their own.



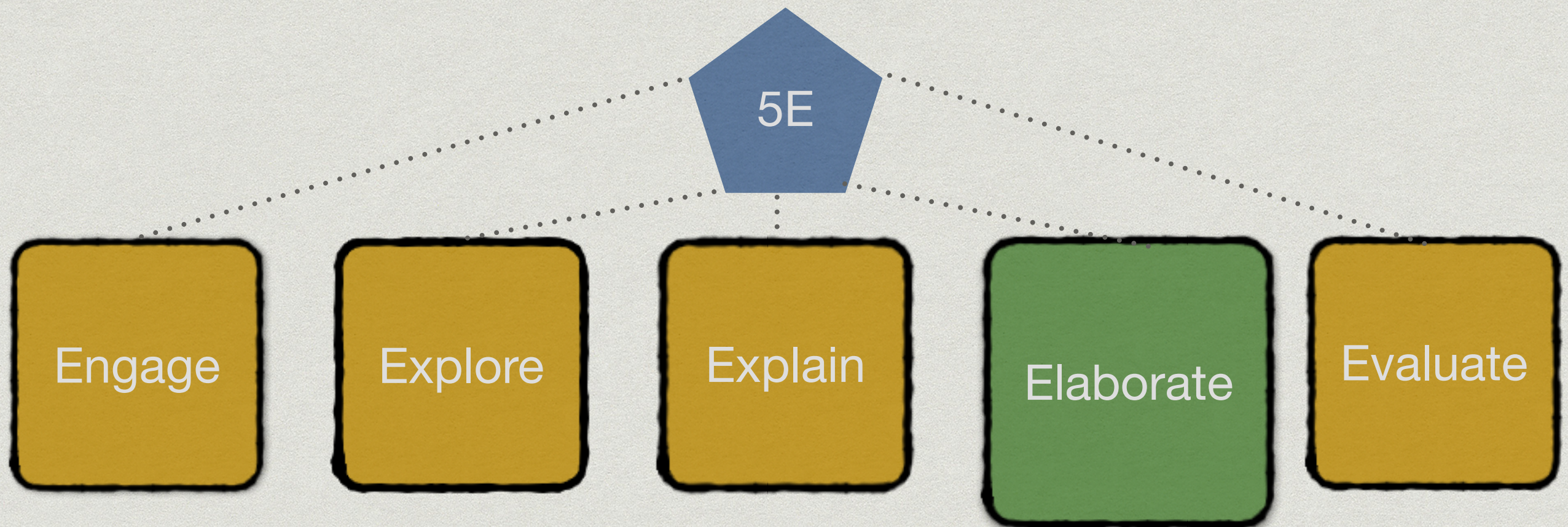
# 5E learning cycle...



The students require explaining what they learned by their own sentences after the physical activity, by asking the results they reached, the observations they made and their ideas as well as the things that they noticed.



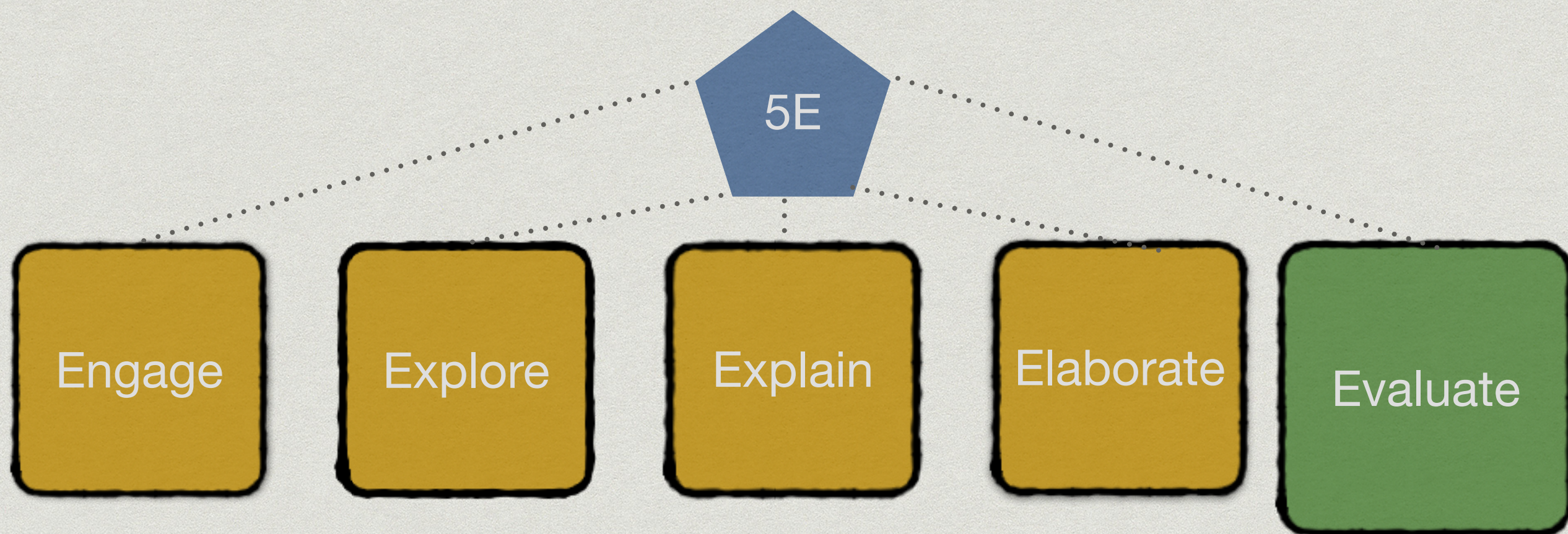
# 5E learning cycle...



In elaborating stage, the students make to solve the problems in the physical education, they provide to see new question types about the new taught subject and the students expect to give answers to these questions.



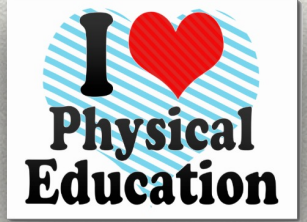
# 5E learning cycle...



And in the last stage (evaluate), by examining the studies that students make in their school and physical activities, the students' learning levels are observed. These observations make by considering all the learning process. Student's physical performances and his developing degree in the process are taken into consideration.



# 5E & PE



- \* The literature has been systematically reviewed and the results showed that the 5E learning cycle is an untested model in physical education.
- \* Especially, positive or negative effects of the 5E learning cycle in physical education are unknown.
- \* This study is important for relevant literatures in order to be first study about the conceptual constructive of the 5E learning cycle in physical education.
- \* Thus, the purposes of this study are to conceptualize the 5E learning cycle in physical education as a new constructivist approach and to prepare sample teaching plans for use in physical education classes.



# 5E & PE

- \* Sample teaching plans about the 5E learning cycle have been prepared by authors and are ready to use in physical education and sport teaching.
- \* For example, a physical education teacher wants to teach basic concepts about the human physiology (like heartbeat, breath, fatigue, etc.) or skills, can use this model has 5 “E”s.





# Methodology...

- \* In this section, two sample lesson plans have been prepared in order to teach the basic concepts and skills in physical education and presented by authors.
- \* In preparation phase of these plans, the authors have taken care of all phases of 5E learning cycle.





# Methodology...

<b>Learning Domain</b>	Physical Activity Habit
<b>Sub-Learning Domain</b>	Relationship between Physical Activity and Circulatory System
<b>Course Time</b>	1 hour
<b>Skills</b>	Reasoning, overarching
<b>Gains</b>	Learning heartbeat, using in social life
<b>Methods and Techniques</b>	Examination and exploring, learning by doing
<b>Engaging</b>	
<p>Teacher asks questions following;</p> <ol style="list-style-type: none"> <li>1. “Which organs do we have and what are most important of them?”</li> <li>2. “Do you know where heart is and what is the work of it?”</li> </ol> <p>These questions make a sensation on students. (What is the heartbeat? Why do people get tired? etc.).</p>	
<b>Exploring</b>	
<p>Teacher wants students to run 2 tours around the school garden. After than asks these questions;</p> <ol style="list-style-type: none"> <li>1. “Are you feeling your heartbeat?”</li> <li>2. “Do you know why your hearth beat is faster?”</li> </ol>	



3. “Which other reactions did you feel like faster breathing, sweltering, warming up, etc?”  
And teacher wants students to discuss each other and to tell a story about these situations.

### Explaining

Teacher wants students to run 5 tours around the school garden at this time. After heartbeats of students have been measured, teacher asks again;

1. “How much is your heartbeat?”
2. “Did you feel reactions we talked before?”
3. “Are you tired and / or thirsty?”
4. “Do you want to play a game or do physical activity tirelessly?”
5. “Do you know how do you do that?”

Teacher lets them think critical and ask questions. So, teacher provides them with a clear understanding.

### Elaborating

Teacher gives them chance to use their knowledge and asks questions for reinforcement;

1. “What is your favourite athlete?”
2. “What do you think that these athletes are tired when they run or do physical activity as much as you are?”
3. “How do they success it?”

Teacher lets them think critical and answer the questions. After than teacher wants students to discuss each other about relationship between physical activity habits and heartbeat and finally teaches what is the relationship between these concepts? So, these concepts will be thoroughly learned by the students.

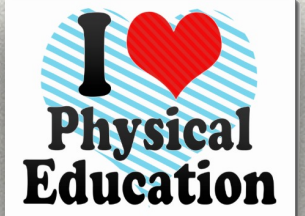
### Evaluation

In this stage, the students should be realizing relationship between physical activity habits and circulation system. Teacher wants them write a composition about which activity you want to do regularly and talk about it with their families. Teacher evaluates awareness what teacher wants to raise for physical activity habits of the students.



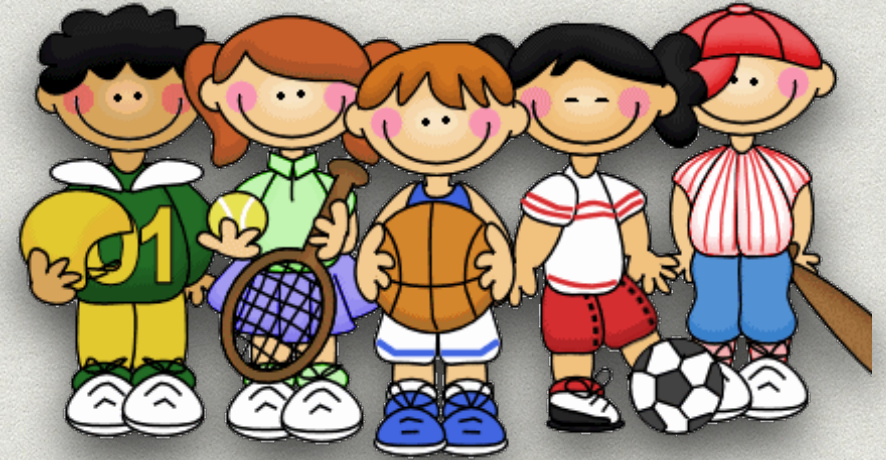
# Discussions...

- ✱ While there were too many studies about 5E learning cycle in the world, in Turkey these studies were limited.
- ✱ In the present study includes some of the research studies on 5E learning cycle and science discipline because of no studies on 5E learning cycle and physical education.





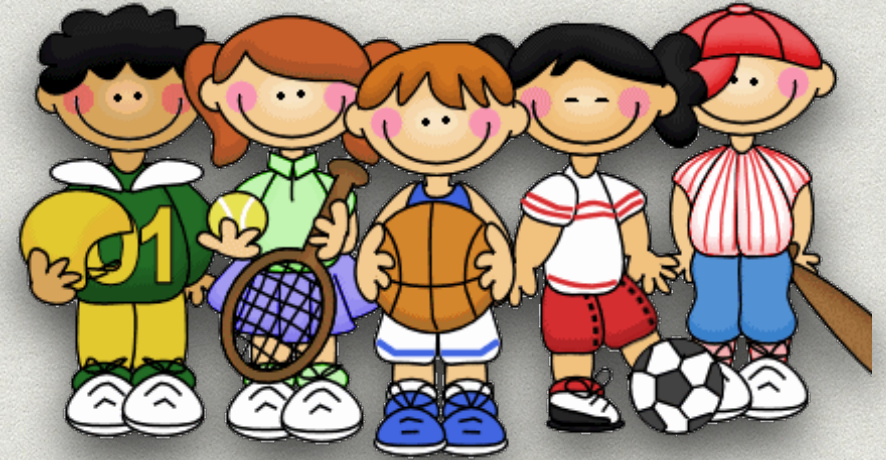
# Discussions...



- \* Study performed by Campbell [8] investigated the fifth grade students' understanding of force and motion concepts through the use of the 5E learning cycle. Students participated in investigations about force and motion concepts weekly for a period of 14 weeks. Findings showed that students' knowledge about force and motion concepts increased although their knowledge as demonstrated on paper was insufficient. It seemed that the students were of the same opinion that learning science through text book was not the best way for them.
- \* Ozsevgec [10] investigated the effect of 5E learning cycle on 5th grade students' achievement and attitudes toward science and technology course. It was found that there was a statistically significant mean difference in the favour of 5E learning cycle group.



# Discussions...



- \* Orgill and Thomas [9] suggested that analogies could be useful tools in each phase of the 5E learning cycle and pointed out that science classes would provide from performing the lesson with the challenging concepts that were related to everyday experiences. They gave examples about what the students and teachers could do while using analogies in each phase.
- \* Cardak, Dikmenli and Saritas [11] aimed to investigate that the effect of the 5E learning cycle on sixth grade students' achievement during the circulatory system unit. While the experimental group and the control group were the same at first, after implementation, there was an important difference in favour of the experimental group.



# Results...



- \* The primary purpose of this study was to adapt 5E learning cycle as a new learning model to physical education. The other purposes were to conceptualize the 5E learning cycle in physical education as a new constructivist approach and to prepare sample teaching plans for use in physical education classes. Sample teaching plans about the 5E learning cycle have been prepared by authors and are ready to use in physical education and sport teaching.



# Results...

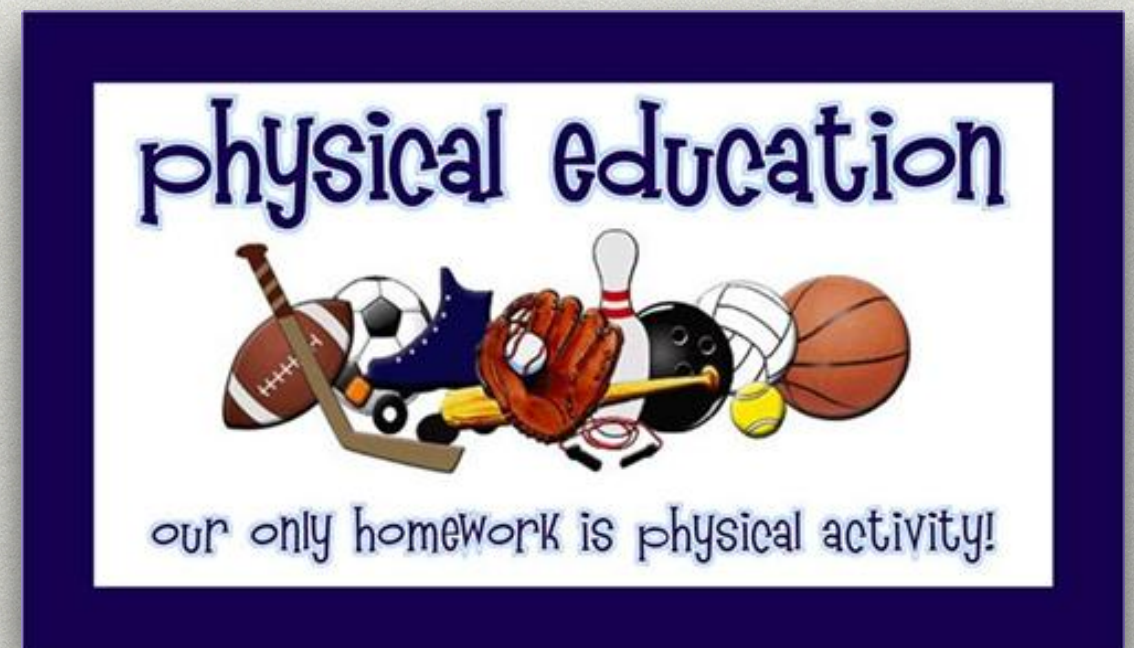


- ✳ For example, a physical education teacher wants to teach basic concepts about the human physiology (like heartbeat, breath, fatigue, etc.) or skills, can use this model has 5 “E”s. In this context, 5E learning cycle can also be used to teach concepts on physical education and sport teaching as an applied science of education. 5E learning cycle that is being used as a different model can be applied by competent physical education teachers in the course of physical education lessons.



# As a Conclusion...

- \* ...the plans prepared may be applied by authors, teachers or independent researchers want to study on this model and this study will be a new idea about the constructivist approach on physical education.





Thank you..

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