



MOTIVATING STUDENTS TOWARD STUDYING PHYSICS

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PHYSICS

Physics consists only of symbols, laws and calculation which are not related to our real life.

Most phenomena around us can be explained through physics



How to increase the motivation
of my students toward studying physics by
showing them the importance of the physics
knowledge in their life?

What about reading articles of physics
application
in everyday life?



“Motivation is an internal state that arouses, directs and maintains behavior”

(Woolfolk, 2001)

WHY I NEED TO MOTIVATE MY STUDENTS

Motivation effecting students' learning. (Ormrod, 2000)

1. Motivation directs behavior toward particular goals.
2. Motivation increases effort and energy expended toward these goals.
3. Motivation increases initiation of, and persistence in, activities.
4. Motivation leads to improve performance.

INTRINSIC AND EXTRINSIC MOTIVATIONS

- **Intrinsic Motivation (IM):** Student behavior is regulated through the pleasure and satisfaction that students find during activities. It is related to students' curiosity, interest, their need for exploration and accomplishments.
- **Extrinsic Motivation (EM) :** Students behavior is regulated through external means, such as rewards and constraints.

PERSONA AND SITUATIONAL INTERESTS

- **Personal Interest** is what students bring with them to the classroom.

- **Situational Interest** is something that students acquire by participating in activities in the classroom.

RESEARCH QUESTION

How does reading articles about physics affect students' motivation to study physics?

PROCEDURES:

- Reading about physics.
- Physics articles from different resources.
- Where to place the reading in the lesson plan?

DATA COLLECTION:

1. Observation of students' reaction to the reading in the classroom.
2. Questionnaire to collect students' opinion.
3. Focused group discussion about advantages and disadvantages of the strategy.

EXAMPLE OF OBSERVATION FORM

Group: 2	Lesson: Doppler effect.
Student names: W,T	Article: Speed Traps.
<p>Observation:</p> <p>They read the article carefully.</p> <p>They faced some difficult in understanding the topics.</p> <p>They discussed in group, their friends explained for them.</p> <p>One of them presented the article to whole class.</p>	

FINDING AND ANALYZING:

Observation:

My observation showed that

- Most of the students were engaged in the reading and were interested in discussion.
- Some students faced difficulties in some topics due to the level of English language.

STUDENT QUESTIONNAIRE

The questions are divided into three categories.

- Part 1: questions (1,2,6)

Ask students' feedback about the strategy, if it is interesting and motivates students to study physics.

- Part 2: questions (3,4,5,7,8,9)

Ask students' opinion about strategy procedure (applying time, language level, different resources, suitable topic, and method to read articles).

- Part3: question 10.

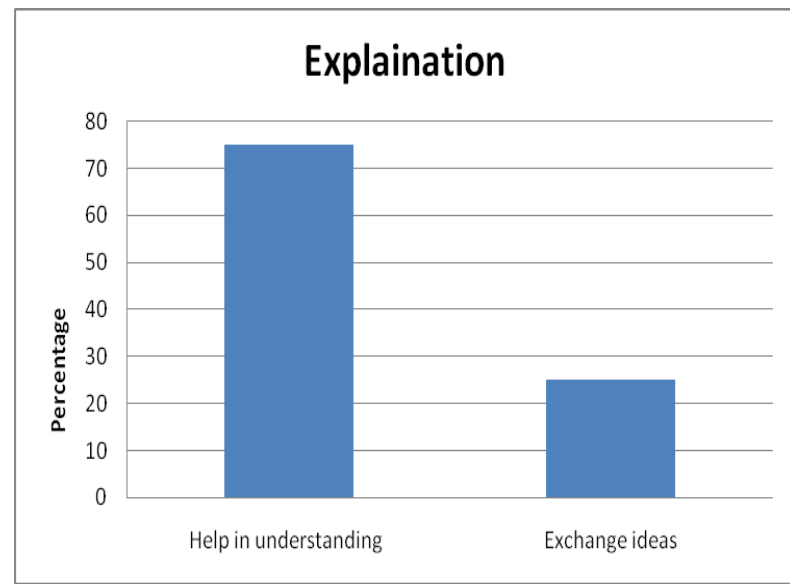
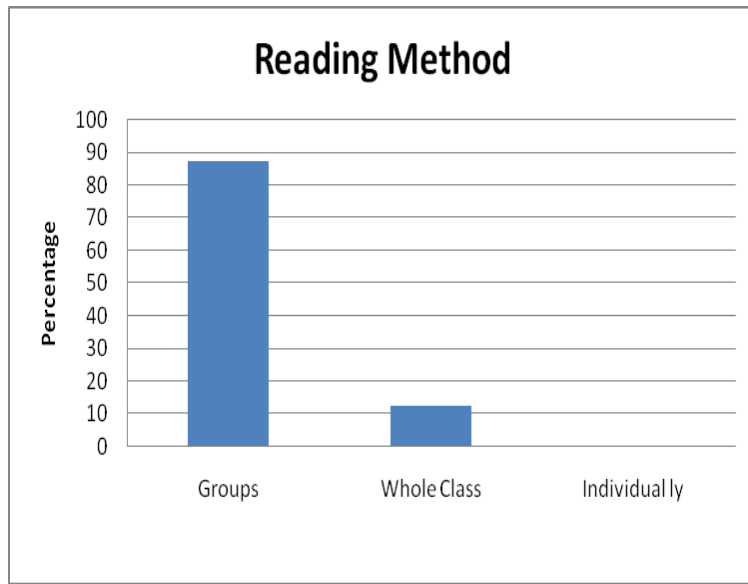
Ask about students' recommendation to improve this strategy and suggest a method to motivate students.

FINDING AND ANALYZING:

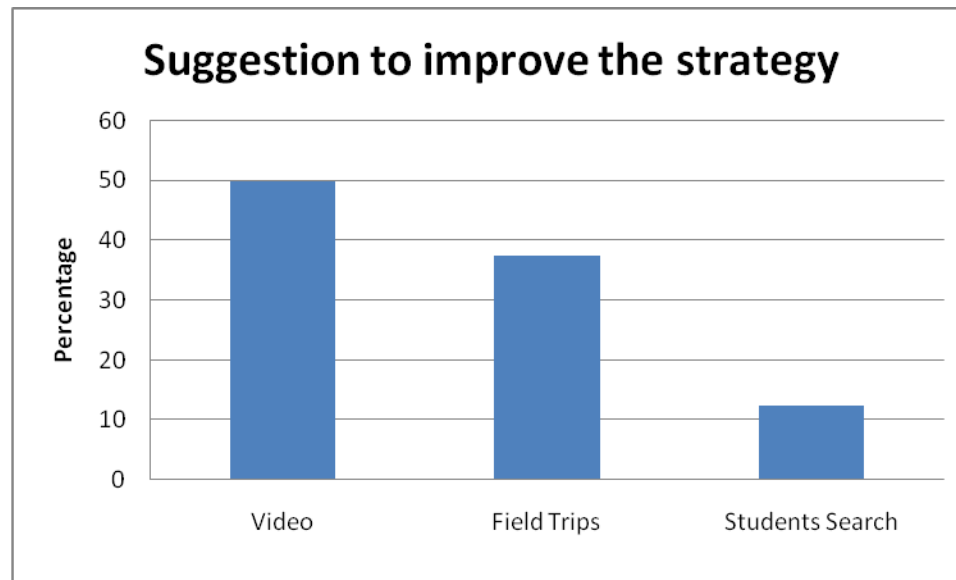
- Although 87.5 % agreed that strategy was an interesting method and all of the students (100%) agreed that the strategy helped them to understand the importance of physics in their life , only 62.5% of students said that this strategy motivated them to study physics.



- Most students were satisfied with strategy procedures:
 - 87.5% different time;
 - 75% language level;
 - 50% variety in resources;
 - 87% articles are related to the lessons.
- Most of students thought reading in groups is the best method to apply this strategy because it helps them to understand by helping each other.



- Students suggested that to motivate students, teacher can use:
 - 1- visual aids such as video;
 - 2- field trips to factories;
 - 3- students search about physics applications.



CLASS DISCUSSION

What are the advantages and disadvantages of this strategy?

- **Advantages:**

1. Help students to understand the relationship between physics and life.

- **Disadvantages:**

1. Some articles were difficult so they needed long time to understand the application itself.
2. Some articles were using high level language.

CONCLUSION:

- My strategy achieved part of its goal because 100% students realized the connection between the physics application and students' life but 75% agreed that this method motivated them to study physics.
- Using the suggestions given by students such as the use of visual aids like video, take students to field trips such as factories, may motivate students more than reading.



THANK YOU

Questions?