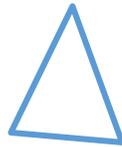
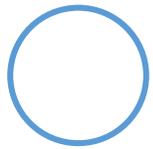
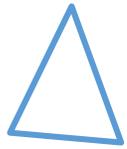


How much time do science teachers spend talking in class compared to English teachers



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Teaching styles

■ Extensive evidences showed teachers' teaching style usually worked with students' learning style, if teaching style matched learning style, students would achieve the best learning results than those whose teaching-learning style did not match due to decreased students' academic anxiety, learning motivation

■

Self-determination theory (Ryan and Deci, 2000)

This theory suggests that people can become self-determined when their needs for...

- 
- Competence
 - Autonomy
 - Relatedness

Teacher talking time (TTT) in classroom

50%

A study of teacher talking time and student talking time practices among ESL instructors at an Intensive English Program (Quintana, C. R. B. (2017))

70-80%

Hattie, detailed in Visual Learning for Teachers , confirms the dominance of teacher voices in classrooms, with an average of 70 to 80 percent of class time also confirms that the activities in these classes were mostly of low order according to Bloom's taxonomy

98%

Increasing student talk time in the ESL classroom: An investigation of teacher talk time and student talk time

(Kareema, M. I. F. (2014))

Research questions

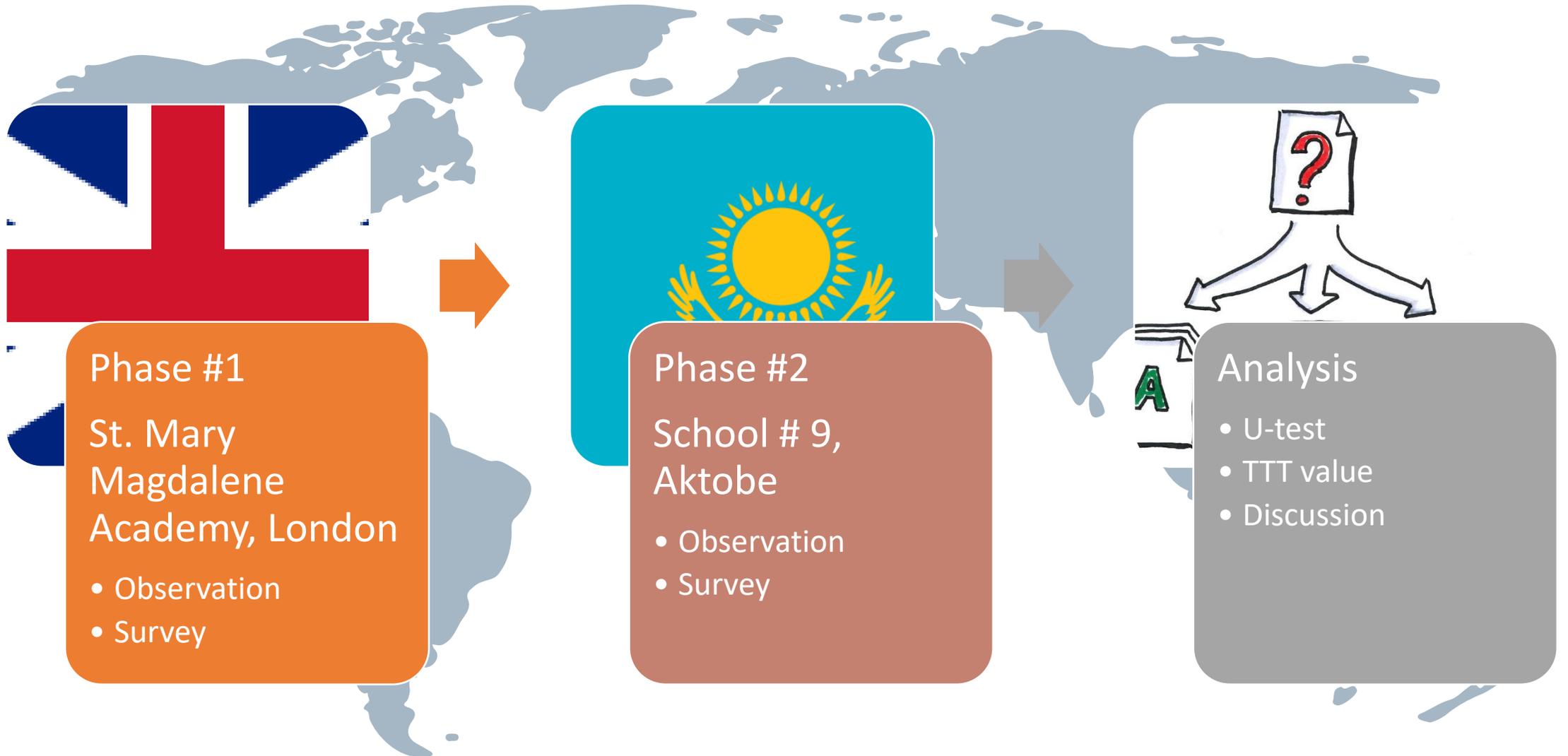
Determine how the proportion of TTT is distributed in science classes compared with English/Kazakh language classes to determine how often teachers give high-level assignments during class and how this relates to TTT?

what extent teachers are aware of their speaking time during the lesson?

what types of assignments (activities) do teachers carry out during the lesson?

how does the speaking time of teachers from England differ than that of teachers from Kazakh context?

Methodology



Findings (phase #1)

Table 1. Comparative table of the distribution of TTT among teachers of science and English.

- The large value of the standard deviation in science lessons demonstrates that the value of TTT varied (lessons where there was practical work was less TTT)
- English lessons showed more stable dynamics of TTT value

Subject	Count, N	Mean, \bar{x}, %	Margin of Error	Standard deviation
Science teachers	14	60.7	60.714 3 ±8.659	19.7
English language	8	41.3	41.25 ±2.266	6.4

Mann-Whitney U-test

The **Mann-Whitney U Test** is a statistical test used to determine if 2 groups are **significantly different** from each other on your variable of interest.

2 groups should be independent (not related to each other) and should have enough data (more than 5 values in each group)

Calculator:

<https://www.socscistatistics.com/tests/mannwhitney/>

Science teachers number of lessons=14	English teachers number of lessons=8
Average % of TTT	
60.7%	41.3%
U-test was calculated equal to 22	
The critical value of the Mann-Whitney U-test for a given number of compared groups is 26	
$22 \leq 26$, therefore, the differences in the level of the trait in the compared groups are statistically significant ($p < 0.05$), in other words, the speaking time of science teachers significantly exceeds the speaking time of English teachers language	

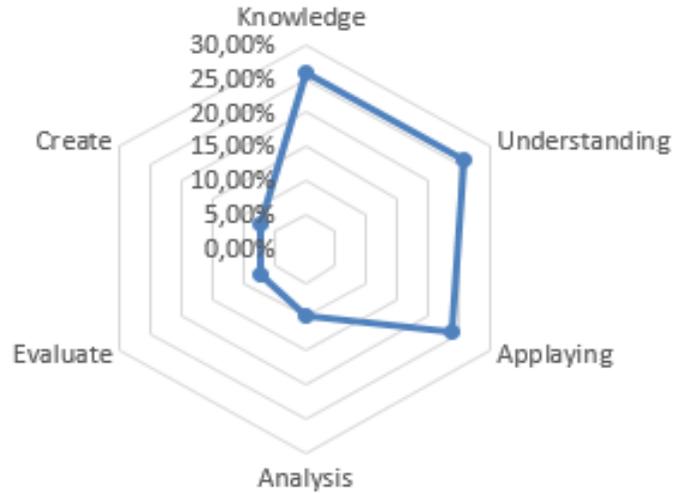
Findings (phase #1)

Table 2. Comparative table based on the results of a survey among science and English teachers regarding the question of how teachers evaluate TTT in the classroom

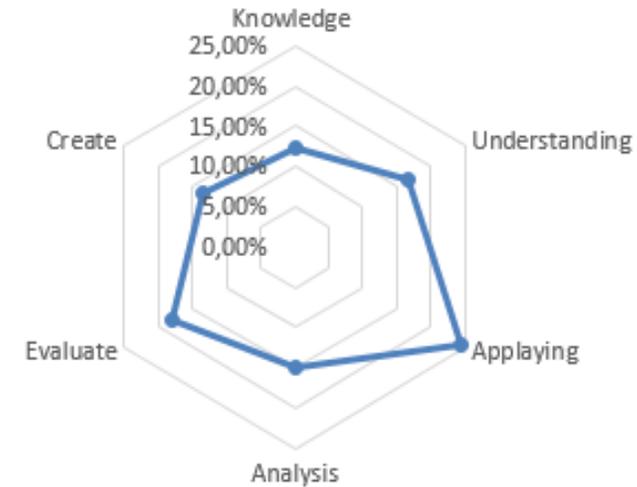
Subject	Count, N	Mean, \bar{x},%	Margin of Error	Standard deviation
Science teachers	14	47,9	47.857 1 ± 3.031	11.3
English language	8	42,6	42.625 ± 3.505	9.9

Findings (phase #1)

Percentage of assignments according to Bloom's taxonomy in science lessons



Percentage of assignments according to Bloom's taxonomy in English and literature lessons



- Science teachers mainly focused on the levels of **Knowledge, Understanding and Application**
- English teachers mainly focused on **Application, Evaluate and Analysis**

- ❖ Teachers who spoke more than **70%** during the lesson gave students mostly low order tasks, for example, tasks for knowledge and understanding made up on average **80%** of all tasks considered in the lesson.
- ❖ Teachers, who spoke less than **60%**, gave more practical assignments, as low-order assignments made up an average of **55%** of all assignments.

Conclusion

❑ Teachers speak more in **science** lessons than in **English** lessons

Possible causes:

- ❖ associated with the specifics of the subject;
- ❖ science teachers lay the foundation at the beginning of the lesson, and accordingly they have to talk more.
- ❑ The higher the level of TTT  The lower the level of tasks;
- ❑ In lessons where the level of TTT was low, the teacher acted as a facilitator
- ❑ The level of perception of TTT among science teachers was lower than among teachers of English

Suggestions for decreasing the value of TTT

❖ **START BY STATING THE PROBLEM**

- Start by posing the problem.
- In physics, this can be, for example, an open problem (a description of specific life situations), or provide a solution with a logical error at work and ask students to find, analyze the error, explain why it appeared.

❖ **USE QUESTIONS INSTEAD OF EXPLANATIONS**

- If you come up to a group and a student asks you a question, turn to the other participants and ask them, "What do you think?"
- If the whole group has this problem, talk to the whole class.

❖ **OBSERVE**

- Spend some time observing students.
- Give them a hard task.
- Watch how they work.
- This observation helps collect data to plan the next steps.

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FEEDBACK