

《高中英语（上外版）》选择性必修第二册 Unit 1 Scientists

课时：第 6 课时

教学内容：Critical Thinking

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一、教学设计与说明

1. 教学目标

本课为本单元的第六课时，学生通过该课时的学习，能通过回顾钟扬、霍金和富兰克林所面对的困难和他们的应对，梳理三位科学家的精神品质；能通过将科学家所遇到的困难根据其类型分类，并梳理相应的精神品质，理解科学家的工作和所应具备的精神品质；能通过分享自身科学探索的经历，发现自己或同伴身上所具备的科学家品质；能通过讨论单元大作业评价量规中的具体细节，理解单元大作业的要求。

2. 设计思路

本课为思辨课，旨在梳理和回顾教材 Reading A、Reading B 和视听说板块中所涉及的内容。首先，教师引导学生通过采访活动回顾并梳理钟扬、霍金和富兰克林遭遇的困难及其应对困难的态度，总结三位科学家的精神品质；其次，教师引导学生将科学家所遭遇的困难进行分类，并思考应对该类型的困难所需的重要品质，帮助学生更深入地理解科学家工作的特点与所应具备的品质。然后，通过播放教材视频片段，鼓励学生思考科学家精神的体现范围，并引导学生通过分享自己或周围人身上体现科学家品质的小故事，理解科学家精神广泛存在于每个人身上的道理。最后，带领学生熟悉单元大作业的评价量规，并通过讨论其中的关键信息，理解单元大作业的评价要求。

作业要求：写一个 60 字左右的语段，描述个人科学探索过程中克服困难的一个经历。同时，在小组内继续讨论单元大作业的评价量规，并开始设计单元大作业。

3. 重点难点

概括困难的类型，分析科学家所需的重要品质，理解人人皆具备科学家品质。

Lesson Plan

Learning Objectives:

By the end of this period, students will be able to:

1. summarize qualities of Zhong Yang, Stephen Hawking and Rosalind Franklin by reviewing the difficulties they faced and their responses to these difficulties;
2. understand scientists' work and qualities by categorizing their difficulties into major obstacles and identifying the qualities needed to deal with the obstacles;
3. identify scientists' qualities in themselves and their peers by sharing relevant personal stories about exploring science;
4. familiarize themselves with the requirements of the final project by discussing important details in the rubric for the final project.

Learning Procedures:

I. Interactive activity 1: Comments on students' previous assignments

*T: Summarize Rosalind Franklin's feelings of being recognized and her suggestions for female scientists based on students' writing assignments.

*Ss: Read the words and phrases listed on the slide to learn about classmates' ideas.

Purpose: To provide Ss with more possible answers to help them deepen their understanding of the difficulties facing Rosalind.

Guided questions:

1. What might be Franklin's reactions to being recognized?
2. What might be Franklin's suggestions for female scientists to follow?

II. Interactive activity 2: The Scientist Assembly: Q&A session

*T: Ask students to have a role play to review the difficulties, responses and qualities of Zhong Yang, Stephen Hawking and Rosalind Franklin.

*Ss: Discuss the three scientists' difficulties, responses and qualities in the form of an interview. Fill in the "Major points" column of Table 1 on the worksheet to note down the rehearsal of the interview.

*T: Invite one group to present the interview.

*Ss: One group act it out while the other groups complete Table 1 (Comments).

*T: Ask students to make comments on the interview or offer additional information.

*Ss: Comment on the interview or add some key information concerning the three scientists' difficulties, responses and qualities.

Purpose: To help Ss have a general review of what has been learned in the previous lessons.

Guided questions:

1. What are these scientists' difficulties, responses and qualities?
2. Does the interview convey all the key information?

III. Interactive activity 3: Major obstacles and important qualities

*T: Ask students to categorize the difficulties into major obstacles and brainstorm more major obstacles with examples. Discuss the qualities needed to deal with the major obstacles and provide reasons.

*Ss: Categorize the difficulties into major obstacles in groups and brainstorm more major obstacles with examples. Discuss the qualities needed to deal with the major obstacles and give reasons. Complete Table 2 and Table 3 on the worksheet.

Purpose: To help Ss generalize the major obstacles scientists may encounter conclude the qualities needed to deal with the major obstacles.

Guided questions:

1. What are major obstacles scientists may encounter?
2. What qualities are needed to deal with the major obstacles?

IV. Interactive activity 4: Who can be scientists?

*T: Ask students to think about what kinds of scientists the three scientists represent and brainstorm other common qualities of scientists after watching the video.

*Ss: Discuss the shared qualities of the three scientists and brainstorm other qualities of scientists after watching the video.

Purpose: To help Ss understand the kinds of people who can be scientists

Guided question:

Who can be scientists?

V. Interactive activity 5: I see the scientist in you

*T: Ask students to tell stories of themselves or those around them that reflect scientists' qualities with a concrete example.

*Ss: Share stories and provide evidence (specific examples).

Purpose: To help Ss realize that everyone can have scientist's qualities and identify the qualities in themselves or their peers.

Guided question:

What are the stories that can reflect scientists' qualities?

VI. Interactive activity 6: Rubrics for the final project

*T: Ask students to read the rubrics carefully and mark some important words or phrases.

*Ss: Read the rubrics and find the key points.

*T: Invite some students to point out the key words or and phrases. Explain some new words and the detailed requirements for the booklet when necessary.

*Ss: Share what they have found important and ask questions if they are confused.

Purpose: To familiarize Ss with the rubrics for the final project.

Guided question:

What makes an excellent booklet?

VII. Assignments

1. Write a paragraph in at least 60 words to introduce a personal experience of encountering difficulties in your scientific exploration.
2. Discuss the rubrics in groups and start to design the final project.

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