

REVIEWS

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Teaching Critical and Complex Thinking through Art

National Gallery of Art, 2024

When I first heard about the course on teaching critical thinking through art, I thought art in an English class?! How can it be connected with teaching a language? We are not art teachers! Critical thinking and art?

This is what most teachers would say about art. They feel unprepared to deal with art in class—myself included!

As for critical thinking, teachers have been talking about it, and using it for quite a long time. Then, 'What about complex thinking?' I wondered. 'How can critical and complex thinking and art be used in English class?'

[The National Gallery of Art](#), based in Washington, D.C, launched two [online courses](#) as part of its Learn section. First, in 2019, they offered *Teaching Critical Thinking through Art* that proved to be a transformative tool for many teachers. In 2024, they launched a sequel: *Teaching Complex Thinking through Art*.

What the courses are about

[Teaching Critical and Complex Thinking through Art](#) are both based on the Artful Thinking pedagogy developed by [Project Zero](#) at Harvard University. According to [Artful Thinking](#), the six thinking dispositions that can be improved by engaging with art include: observing and describing, reasoning with evidence, questioning and investigating, comparing and connecting, exploring viewpoints, and finding complexity. In other words, they train learners to observe carefully, to justify thinking based on evidence, to connect what they see to their previous knowledge or to infer from what they see.

Teaching Critical Thinking through Art deals with the first three thinking dispositions. The other three are discussed in the sequel: *Teaching Complex Thinking through Art*. Although the latter course is a sequel of the first one, it is not necessary to have completed the first to participate in the second.

Both online courses, delivered by [Smithsonian EdX](#), are completely free. Enrollment is permanently open as long as the course is available. There are no prerequisites, except for registering at EdX, which is a very simple process.



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Each self-paced course takes approximately 20 hours to complete: ideally, four to five hours a week. Although the material is available for 16 weeks, it is advisable to finish sooner to have time to try the activities, and return to the course for further consultation. In all, it is easy to find time to watch videos in detail. Reading all the bibliography might take longer.

The upgraded paid version grants unlimited access to course materials, graded assignments, exams and a certificate of completion.

Even though the course is delivered in English, transcripts are available in Spanish, French and Chinese.

What attracted me to join was the fact that no previous knowledge of art was required, and that the activities could be applied to any subject or level being taught.

Both courses are organized into four dynamic units. In each course, there is an introductory unit to critical thinking routines, and how to use complex thinking, and one unit for each thinking disposition. Each unit is developed through a wide range of activities combined with brainstorming, polls and discussion boards to share ideas with participants worldwide

Another aspect I liked was the amount of downloadable teaching resources available. They include videos of real teachers working with different levels and subjects in classrooms and at the museum to show how the thinking routines are used. Full lesson plans and templates of those classes are ready for use as well as slides of art images. Interactive tools that can enhance the experience include: high-resolution zoom to examine works of art in detail and from different perspectives, and guided videos of sculpture. All in all, I found the experience of working with art carefully planned, designed and delivered.

What you will learn

Having completed both courses, I would define them as training in careful observation and devoting time to thinking and reflection, in which participants are taught to 'see, think and wonder.' The content of the units develops gradually from theory to practice. A working plan suggests how much time should be devoted to each step. A lead-in video introduces the skill being learned. This is supported with theory or suggested reading- Then a hands-on video shows teachers practicing in class. Templates and lesson plans are available to take the experience to one's own class.



After completion, you will have learned how to:

- use thinking routines: open-ended questions centered around the thinking dispositions
- explore artwork for yourself, and reflect on your findings
- integrate works of art in class
- generate conversations in class using art
- help learners develop description techniques and questioning habits
- use key strategies to develop critical and complex thinking activities around works of art

What you can do in your TESOL class

Once the techniques are learned, they can be used with any work of art and adapted to any level. The techniques are based on the six thinking dispositions mentioned in the introduction. However, there is no need to follow all of them when planning a lesson.

I worked with Van Gogh's [Self-Portrait](#) with a group of young adults at B1+ level. At the beginning, they were feeling quite embarrassed talking about art. I had to do some research about the painting to be able to guide them, and offer some background information about the artist and his life. Firstly, we started by looking for details and writing words in a template: the 'What I see' stage. After sharing notes, they were invited to reflect on 'What I think', what makes them think what was happening in the picture; to interpret the painting. Learners share notes with the partner next to them, and then with the rest of the class. Finally, the 'What I wonder' stage: they explore other viewpoints, connect to similar things. They express what they would like to know about the painting. The whole process is a very enriching activity. They discover they can talk about a work of art without being experts which makes them feel confident. The activities can be turned into a vocabulary lesson working with adjectives for feelings, verbs or nouns. It can also be used as a writing activity to create a story around the painting. The course includes a wide range of ideas to adapt to the needs or characteristics of the class.

Final thoughts

Thanks to the course, I have learned to look at art with different eyes. I am more aware of how observation and reflection can help learners express themselves. I feel more confident using any work of art, and connecting it to language teaching.

Discovering the thinking routines helped me use them in other areas, for example, when working with the cover of any book in a pre-reading activity, or in a writing activity based on picture observation. Both courses gave me tools to generate meaningful speaking and writing activities, and made my classes more inclusive. Although I am not an art expert, now I can create discussion practices, and encourage students to give their opinions about art too. I have found their contributions could be very original and creative.

The courses are not just about art. For EFL/ESL teachers, they are a whole new perspective on art. They enlarge general culture and our vision of the world, and show art can be integrated into language teaching. They offer tools that will make classes more engaging and enriching for students and teachers as well.



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Explore Hands-on STEM Activities

with DIY Science Time

PBS Learning Media, 2024



The PBS Learning Media [DIY Science Time](#) consists of 13 videos that support STEM: science, technology, engineering and mathematics.

Although designed for schools in the USA, the videos explore many topics found in the science curriculum for upper primary and lower secondary in Spain, for example, simple machines, life cycles, birds, colours, water, flight, and robots.

The Do-It-Yourself, hands-on approach motivates learners to take an active role in examining the topics from multiple perspectives. The experiments and crafts activate lower and higher order thinking skills like observing and drawing conclusions. The kinaesthetic dimension stimulates discussion, and is rewarding for all students learning English, not only those in bilingual or CLIL classes.

Key features of the videos

The dynamic combination of commentary, video clips, hands-on activities, and animated drawings hold the learners' attention as each program reinforces steps of the scientific method. Mister C. introduces each video with bouncy rap music in the background, then presents the experiment and crafts that learners will use to explore the topic.

The materials necessary for experiments and crafts are shown one-by-one as they are named which aids understanding and promotes language development. Most materials are everyday items that one might have at home. When tools like scissors or a hair dryer are needed, Mister C. advises how to use them safely. A colourful banner at the bottom of the screen reinforces this advice.

One material plays a major role in all experiments: the science notebook. Students can download a free template or use a store-bought notebook. The science notebook guides learners in approaching experiments like a scientist: making observations, taking notes and sharing results. All are important in the scientific method, and help to develop language skills. A notebook symbol appears on-screen to indicate especially worthwhile information, prompting learners to take notes.

Scientists carry out experiments to answer questions. In the videos, these questions may appear written on-screen (What makes a bird, a bird?), offered orally (What kind of birds are there in your environment?), (What type of bird food do your neighbourhood birds like best?) by Mr. C or a humorous avatar. Pop-up banners give alternatives to the current experiment. For example, with regard to building paper airplanes, the banner suggests testing different types of paper to compare the results.

How to use the videos

Exploiting the videos depends on your goals, the age and language skills of your learners, and the time you want to dedicate to the topic in class. Each video lasts 26 minutes and 40 seconds, and consists of several parts: introduction, crafts, experiment, related mini-documentaries. As a result, breaking it up into smaller chunks enables you to select the most relevant parts for your learners and time frame.

Selecting relevant parts is facilitated by the vertical red lines that intersect the video progress bar at the bottom of the screen. Moving your cursor near a red line reveals the duration up to that point plus a brief description of what is being shown, for example, "05:37 paper airplane building." Clicking on the red line takes you to the indicated part.

Techniques for exploiting the selected part(s) will also depend on your context. For example, you might view the video to do the experiment or craft yourself as a demonstration. Afterwards, you could guide learners to replicate what you have done. Alternatively, learners could view the selected part without sound or captions in order to focus on the visual elements. Guide them to formulate hypotheses on their observations and check them by viewing the video with sound: What is the experiment about? What materials do we need? For learners already experienced in the scientific method, you could project the questions, and encourage them to propose a suitable experiment or craft. This approach stimulates problem-solving skills and creative thinking. Analysing your learners, context and time frame will enable you to devise the most appropriate exploitation techniques.

Authentic language and language support

The videos offer authentic language that has not been edited for English language learners. ChatGPT can help you determine the language level. Provide this AI tool with an extract from the transcript and ask it to determine the CEFR level, identify key terms and grammar features. Chat GPT described one extract from the *Birds* video as B1. It explained that even though the content is familiar, the extract used some special vocabulary (such as "glue gun," "science notebook"), conditionals and concepts like note-taking.

The videos are not designed to teach English, but several features aid understanding and support language development:

- Closed captioning is available in English and Spanish
- On-screen labels highlight key language. For example, as Mr. C. explains the four principles of flight, (gravity, lift, thrust and drag) with a paper airplane, labelled arrows appear around it to indicate the force each exerts. Gravity pulls the plane down; lift pushes it up.
- Colourful pop-up banners synchronized with Mr. C's commentary offer definitions of some key terms;
- The transcript enables you to study the entire commentary in detail in order to identify key terms and language features;
- The teacher's guide and support materials for students propose activities that encourage language use.

The [Literacy in STEM toolkit](#) offers useful insights into STEM and language learners.

Resources for teachers and learners

To access the resources, click [here](#) to select a video. Clicking on the SM icon in the lower right-hand corner of the box yields a short description of video content, and a list of support materials.

Materials for teachers include a brief guide and corresponding nationwide US learning standards. The guide contains the main question explored by the video (What are the four principles of flight?); activities for before/while/after viewing; activities to explore the topic further, and bullet points to indicate relevant STEM concepts. The standards resemble the objectives of science curricula in Spain.

Support materials for learners consist of printable discussion questions, step-by-step instructions for the crafts, an explanation of why the craft achieves its stated goal, and the template for the science notebook.

All these materials guide work on the experiment and crafts. They also help you evaluate the language and concepts so you can adapt them to your context. They would be helpful when planning a learning situation.

Summing up

The *DIY Science Time* videos will appeal to science teachers who give class in English, and EFL teachers looking for hands-on activities on a science topic. The videos are dynamic and attractive; the experiments and crafts are do-able, and can be adapted. If you want to bring science topics into your classroom, this website is worth a visit!

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QUICK TIPS

Jumbled - Unjumble the words to win the game

Youreka, 2023

EAN 5015353918778

On a recent trip to London, I came across *Jumbled* while looking for some games at my favourite toy shop, Hamleys. Games are a great addition to the classroom as they guarantee fun and engagement, contribute to vocabulary enhancement and problem-solving skills, and can be played both in the traditional classroom and online.

Jumbled ticked all the boxes.

The game comes with a board with coloured spaces that match the colours of the categories in the cards, a timer, counters, and 100 cards with phrases to unjumble. Each card has three phrases under three different categories. Here are some examples: movies (express the polar), well-known phrases (you eat what you are), and random phrases, idioms, and sayings (bury your sand in the head). The game can be played in teams or just teacher vs student in one-on-one classes.

So how is the game played? It is simple, and requires no preparation. Each team has to unjumble as many phrases of one category as possible until the timer runs out. The game begins when one member of the team that starts, reads out the jumbled phrase corresponding to the colour where their counter sits on the board. When any of the other team members shouts out the correct answer, the one that was reading picks up another card. This is repeated until they run out of time. Then, they move their counter the number of correct guesses. Now, it is the other team's turn. Naturally, the first team to reach the finish space, wins the game. In online classes, I do not use the board, so when a team or participant deciphers a phrase, they score a point.

The game is a huge hit among my students at B2 and above, both teens and adults. At these levels, they often show great interest in learning new idioms, sayings and everyday phrases. *Jumbled* gives them the opportunity to learn many in a relaxed and fun way.

Either as a follow-up activity or as a warm-up activity the following class, I encourage my students to use at least one phrase of each category to write a micro story, a dialogue, or a collaborative story. Prior to that, they will have worked on

checking the meaning of the phrases they are not familiar with. *Jumbled* is also great to trigger short discussions about movies.

Jumbled is available at Hamleys stores in the UK and Italy. If you're interested in word games, you could also try *Games Room - Brain Teasers*, *P for Pizza*, and *5 Second Rule*, which can be purchased online.



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