

COUNTERFACTUALS, POSSIBLE WORLDS AND SMARTPHONES

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ABSTRACT

This paper outlines a proposal to use smartphones and counterfactual reasoning to overcome rote and passive learning. Some historians and history teachers have highlighted the usefulness of counterfactual reasoning for a deeper understanding of the past. In a classroom history simulation, it is proposed here that counterfactuals can be developed by a discussion between two groups of students via video call. Counterfactuals and smartphones can be linked by the concept of “possible worlds” conceived within the context of modal logic. Though smartphones are not the only possible technology, they make the experience technically simple and engaging. To conclude, a few critical points in implementing this activity are mentioned.

KEYWORDS

History Teaching, Counterfactuals, Video Calls, Possible Worlds, Simulation

1. THE PROBLEM OF ROTE LEARNING

When teaching and learning are reduced to the transmission and storage of information, many dimensions of knowledge are lost. Bruner, for example, says that «while a body of knowledge is given life and direction by the conjectures and dilemmas that brought it into being and sustained its growth, pupils who are being taught often do not have a corresponding sense of conjecture and dilemma. The task of the curriculum maker and teacher is to provide exercises and occasion for its nurturing» (Bruner 1966, p. 159). A classic example of this problem is history learning, which often consists in the memorization of notions, dates and characters (Jensen 2005). However, mnemonic learning impoverishes the wealth of history. A different way of teaching could be a didactic activity that combines counterfactual reasoning with the use of video calling. In the following paragraphs we will try to link the teaching of counterfactual history with smartphones through the intermediate passage of modal logic.

2. COUNTERFACTUALS AND HISTORIANS

A counterfactual hypothesis consists in imagining an alternative outcome of a historical event which we already know to have occurred in a certain way, e.g. “if Hitler had won the Second World War, he would have landed on the moon”. Counterfactuals are often criticized - “History is not made with ifs”. However, they are also recognized as being useful both in historical research and in the field of psychology (Wenzlhuemer 2009; Kray et al 2010; Buchsbaum et al 2012). In particular, it has been pointed out that historians often implicitly consider alternative outcomes (Bunzl 2004). Maar (2014) lists three possible advantages in counterfactual experiments: they provide helpful insights, weight different causes and show that history is essentially chaotic. He maintains however that only the second point can have a solid basis. In fact, by comparing what happened with what might have happened, it is possible to highlight the relative importance of some factors. It can also be useful to understand why things turned out in a certain way and not in another. Historical figures were always faced with situations where they had to make choices based on the possibilities given to them. Revisiting the possibilities they were given and those they eventually chose without knowing the outcome, allows us to better understand why they acted as they did, providing an “antidote to determinism” (Ferguson 2011, p. 89). These reflections were transposed by some teachers who, when looking for a way to make the teaching more critical, have also adopted counterfactuals.

3. COUNTERFACTUALS AND TEACHERS

In school education, the need for active teaching that involves collaborative activities and role-playing, as opposed to teacher-centered learning, is recognised (McCarthy and Anderson 2000). When teaching history, we must therefore encourage reflection on alternative scenarios and put the students in the condition to relive the dilemmas of a given historical period (Jensen 2005), “thinking historically” about the past, while considering different perspectives (Stradling 2003; Jackson 2005; Corbeil and Laveault 2011). In this sense counterfactuals can be employed to increase the understanding of historical events (Scott 2011).

An example of application is offered by Huijgen and Holthuis (2014). They proposed that training teachers address the construction of a counterfactual reasoning task to students in their last year of pre-university education. The task consisted of four steps:

- 1) choosing a historical narrative
- 2) choosing a point of divergence
- 3) developing an alternative narrative from the point of divergence
- 4) comparing the two stories (the real one and the counterfactual).

The authors analyse an example concerning the fall of the Berlin Wall. The point of divergence chosen is the moment in which Harald Jäger, the commander of the border crossing, orders the opening of the border to the crowd of people coming from East Berlin. The alternative scenario reconstructs what may have happened if Jäger had instead given the order of firing at the crowd. Envisaged consequences are: many are wounded, Bush revokes all the disarmament treaties achieved with the USSR, Gorbachev is dismissed and replaced by the head of the KGB Vladimir Kryuchkov who governs the Soviet empire with a firm hand. The Cold War then reaches its lowest point since the Cuban missile crisis and the Wall remains standing.

In order to create interest around the causes, the counterfactuals must be concrete through games or role-playing, and by promoting the discussion among students (Chapman 2003; Chapman and Woodcock 2006). The idea of developing counterfactuals through smartphones recalls both the experience of narratives of Huijgen and Holthuis and the simulations of Chapman. But to do this, we must first go through the modal logic.

4. HOW TO LINK COUNTERFACTUALS AND VIDEO CALLS

For this proposal, it is necessary to translate counterfactuals in “possible worlds”, as it is done in modal logic: «a counterfactual (or subjunctive) conditional is an invitation to consider what goes on in a selected 'counterfactual situation'; which is to say, at one other possible world. [...] We can say that a counterfactual conditional 'If it were that A, then it would be that C' is true iff C is true at the selected A-world» (Lewis 1986, pp. 20-21). A counterfactual of the type “if Hitler had won the Second World War, he would have landed on the Moon” is to say “there is at least a possible world in which Hitler won the war and went to the moon”. The possible worlds can be interpreted in a more or less metaphorical manner. Kripke, for example, disagrees with the use of the concept of “possible worlds” as “distant planets” and believes that the expression «'possible state (or history) of the world' or 'counterfactual situation'» is preferable (Kripke 1980, p. 15). In our case, however, the possible worlds must be interpreted as if they were “distant planets” from where it is possible to simulate a link.

The application of counterfactuals with smartphones starts by considering the possible worlds as “real” entities (thus not the Kripke’s hypothesis). In the classroom situation, we can simulate a trip to one of the infinite alternate worlds. The class is divided into two groups, one group travels to an alternate world while the other stays behind. The link between the two groups will be by video. Let’s try to better understand how this would work.

5. COUNTERFACTUALS IN CLASS USING VIDEO CALLS

The two groups of students are: the “travellers” and the “interviewers”. Each group is in a different room and will be equipped with a single smartphone through which they will communicate with each other. The group of “travellers” will simulate “a journey to a counterfactual world”, as in the Huijgen and Holthuis example,

where a world materialises after Jäger fires at the crowd. The group of interviewers will begin with questions such as “What can you see?”, “How is the situation over there?”. They then move on to the whys, e.g. “Why are things as they are?”.

At least four phases should be included:

1) a first phase of historical documentation on the fall of the Berlin Wall is performed by the entire class (duration of two lessons)

2) the teacher will have to choose a point of divergence from which to start the possible world (in our example, it was the decision of Jäger firing at the crowd)

3) then the two groups are created (the “travellers” and the “interviewers”). Each group will have a week to prepare a response to what happens after the point of divergence which will have been decided by the teacher. The “travellers” will construct and “prepare to defend” an alternative world starting from the point of divergence. The group of “travellers” are free to choose whichever alternate world, as well as the consequences of the decision to shoot. One possibility is the one seen in Huijen and Holthuis, but there are also other outcomes. This creates a surprise effect because the “interviewers” should study and “prepare to attack” an alternative world they do not know exists up to the moment of contact. The alternative world constructed by the “travellers” foresees some documentation and elements of creativity. First there is the knowledge of the context, the characters and their motivations (which serve to explain the possible reactions of Bush and Gorbachev in the counterfactual world). The part of creativity instead arises from the construction of a narrative (White 1978; 1987) and representation of the alternative world given by the students. Once connected through video calling, they can use costumes or symbolic objects from the alternative world, read articles in newspapers or testimonies (ones they had previously created). The video call allows them to add a visual dimension which gives the students room to be creative (e.g. by getting dressed in accordance with the fashion of the time, by displaying objects from that world or adding filters, such as clack and white, etc.).

The connection will occur with the use of two smartphones and one of the many apps that allow you to video chat (i.e. WhatsApp, Skype, Messenger, Hangouts, etc.): one in the room of the “interviewers” and one in the room of “travellers”. The use of the smartphones in this proposal is not the only possible option. Obviously a computer or a tablet could be used instead, but the cameras of the smartphone (even the front ones) often provide a better quality. Though the smartphone screen is smaller, it can be linked to an Interactive Whiteboard or a projector.

Although smartphones offer many possible applications at school, their basic purpose as a communication device is sometimes underrated. The activity presented in this paper uses the smartphone as a “simple” means for video calling, facilitating a didactic experience that can be both immersive and significant.

4) Finally the video call can be recorded (for example using a screen recording app) and then loaded onto a page especially created in Facebook. The page will collect and store all the “travels in possible worlds” staged from different classes and schools. The posted travels may be commented by students themselves, highlighting the strengths and weaknesses of each video link. This creates a wider environment of discussion of historical topics, thus recovering the sense of the dilemma mentioned by Bruner.

6. SOME QUESTIONS

Many questions, both practical and theoretical, emerge. We mention three.

1) What will the discussion between the two groups be based on? Also, how should the “travellers” “defend” the alternative world that they themselves have built and the “interviewers” “attack”? Bunzl (2004) comes to our aid. He distinguishes good counterfactuals (based on the laws of nature or the considerations of rationality) from bad counterfactuals (more linked to the imagination). He affirms that every counterfactual can be translated in a causal claim and it is on this causal link that our judgement on the validity of the counterfactual hypothesis must be drawn. The “travellers” and the “interviewers” should discuss the soundness of the assumptions that support the constructed world. For example, let’s say that “travellers” build a world in which after firing at the crowd, “Bush retracts agreements on disarmament”. This decision can be translated as “agreements were based on fragile foundations and easily revocable”. This causal link can be debated by the students on the basis of the research that were carried out previously.

2) How can the teacher evaluate an experience of this kind? One thing to keep in mind is that teachers would have the video recording at their disposal to calmly analyse various aspects such as the participation of the individual kids and the soundness of their interventions. But another solution is to set up the experience as a competition between various teams of “travellers” and “interviewers”, and who would be evaluated on Facebook by the students themselves.

3) At what age is it possible to propose this experience? It is necessary to consider the psychological development of students. In the light of experiences from previously made counterfactuals, it would appear that high school students are the preferable target age group.

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