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On the Use of YouTube, Digital Games, Argument Maps, and Digital Feedback in Teaching Philosophy

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Abstract

We give an overview of the methodological possibilities of some important digital tools for teaching philosophy.[1] Several didactically applicable methods have evolved in digital culture, including their implicit methodologies, theories about how these methods may be used. These methodologies are already applied by philosophers today and have their benefits and justifications in philosophy classes as well. They can help to solve known problems of philosophy education. We discuss problems of incomprehensibility and their possible solutions through digital explanations in pod- and videocasts such as YouTube; problems of interaction, motivation, and immersion that digital games and gamification may solve; problems of the complexity of philosophical content and digital concept- and argument-maps to deal with these; problems of implicitness and the possibility to make implicit things in philosophy class explicit through indirect feedback tools.

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1. Introduction: Digital Methodologies and the Problems of Teaching Philosophy

The question of the extent to which digital methods can be used in philosophy classes is being intensively discussed recently. Some educators assume that *all instructional methods* in philosophy can be substituted by their digital counterparts, following well-known models for digital transformation such as Ruben Puenteduras SAMR-model (Baum 2019; Puentedura 2006). Where you previously managed f.e. image analysis with a projector and a slide pen, you can digitally project, zoom, colorise, annotate, and get background information on the image. Where before you had a printed text, now you probably have a digital hypertext. Some educators think that you can transform at least *some core instructional methods*, especially at the university level. For example, in this journal Andreas Brenneis and Sonja Daum transferred a model of "teaching and learning dialogically" into the online platform *Moodle* and concluded that "digital environments are suitable for dialogical forms of doing philosophy" (Brenneis/Daum 2021: 58, 60). Some others, however, think that *none of the essential instructional methods* in philosophy classes are candidates for digital transformation. In the same issue of JDPh Peter Volek pointed out that the typical abstraction level of philosophy and its reading practices cannot be sustained online. Therefore, he challenged digital instruction in philosophy outside of a pandemic scenario in general (Volek 2021: 67-68). All these approaches assume that *methodology*, the theory of methods, comes from didactics of philosophy itself. It typically stems from a metaphilosophically or philosophy of science analysis of how philosophy and therefore also philosophy education works. Philosophy and philosophy education may be determined by a single way of working, for instance "conceptual analysis", or from the multiple ways of working of the "various sub-disciplines of philosophy" (Rudisill 2011: 247). For example, one can take a Socratic philosophy of dialogue as *methodologically* central, draw from it the *method* of using dialogical forms in the classroom, and then look at how these might also function digitally. This is exactly what Brenneis and Daum did regarding Ekkehard Martens' dialogical-pragmatic methodology (Brenneis/Daum 2021: 47; Martens 2019). Digital teaching methods in philosophy education are usually the result of a transfer of analogue methods based on a methodology that is usually explicit and specific to philosophy.[2]

In this paper we will show a different way, which we think has hardly been taken in the discussion in philosophy education on digital methods. There are some new and interesting methodologies that do not come from classic philosophy but have emerged in digital culture itself. The OECD has formulated the broad vision of transferring digital culture into instructional methods in 2021, but this was not yet specific to any subject-matter (OECD 2021). It was more of a bold vision of how artificial intelligence, blockchain, or social robots may be of use for instruction one day in the future. In this paper we assume that there are already some new *digital methodologies* in digital culture today that can lead to some interesting methods for

[2] Of course, it is still conceivable that the methodology or even the methods for philosophy education come from general didactics. However, this idea is far less popular in philosophy education than in other subject-matter specific fields of teaching and learning. As a rule, philosophy teaching is understood as methodologically autonomous. An overview with critical discussion of Johannes Rohbeck's and Ekkehard Martens' approaches is offered by Philipp Richter (2016).

teaching philosophy. Some philosophy teachers have already taken advantage of YouTube (section 2), a platform more and more philosophers use for science communication, they philosophise with digital games (section 3), like game philosophers do, they use digital concept and argument analysis tools (section 4), like some logicians do, and they survey intuitions with digital feedback (section 5), like at least some experimental philosophers do. These methods are not general media pedagogy methods. Certain specifically philosophical uses have already developed. Digital methodologies behind these methods have emerged in digital culture itself, we will make them explicit here. The path, then, is not one of an explicit methodology of philosophy and philosophy teaching to analogue methods and their digital counterparts. Instead, we show already digital methods and reveal the theoretical assumptions behind them, their implicit methodology that emerged in digital culture.
The digital methodologies we will present are in no way sufficient or at least necessary on their own to teach philosophy as philosophy. However, we think that methods in philosophy teaching can also prevail in another way, namely by solving existing and well-known *problems of teaching philosophy*. Understanding digitalisation as a connection between problems and solutions goes back to systems theory. Felix Stalder and Armin Nassehi, for example, take such a view of the digital revolution (Stalder 2016; Nassehi 2019). As Nassehi says, digital transformation is "about the problem-solution constellation of what we call digitality/digitalisation" (Nassehi 2019: 30, own translation). In detail, the problems of philosophy teaching[3] discussed in this paper and their solutions will be:

- problems of incomprehensibility – digital explanations in pod- and videocasts
- problems of interaction, motivation, and immersion – games and gamification
- problems of complexity – concept- and argument-maps
- problems of implicitness – feedback in the classroom

So, some of the methods we present below may be used the first time because they are innovative, versatile, or perhaps even fun. In the long run, however, they have a chance to prevail in philosophy education because their implicit methodologies provide the necessary conditions to solve existing problems of philosophy education.

2. Problems of Incomprehensibility – Digital Explanations in Pod- and Videocasts

Digital media are not just consumer media but rather enable spaces for action and education. They even lead to new *digital cultures of teaching and learning*, which can be understood in terms of virtual spaces. These virtual spaces promote the individual autonomy of teaching and learning by means of *mobility*, *cross-linking*, and *ubiquitous accessibility*. A prominent medium on which digital cultures of teaching and learning have emerged is YouTube (Noller/Ohrenschall 2021). In what follows, this medium shall serve as an example to illustrate the didactic possibilities of digital explanations in podcasts and videocasts in teaching

[3] Interestingly, there is a lively debate in the methodological discussion about what is the core of philosophy, but not about what are the problems of teaching philosophy. This list of problems does not claim to be exhaustive. We have gained them from our own teaching practice and think they are so obvious that they can be easily understood. Possibly they are all due to the fact that philosophy is a demanding cognitive subject. Philosophical content is often abstract.

philosophy.[4]

2.1. The Cultural Importance of YouTube

YouTube enables a variety of highly individualised and specific didactic channels and formats with large numbers of subscribers. Here the question arises as to how YouTube channels can be productively integrated into digital and analogue philosophy teaching and how students can be activated by receiving digital media. What makes YouTube an interesting digital medium for explanation, interaction, and reflection in philosophy – beyond mere online presentation of teaching materials and explanatory videos? Special interest is thereby devoted to the problem of didactic documentation, of dissemination, and of discussion.

The fact that YouTube is more than a mere technical media platform but rather represents a new form of digital culture is already shown by its motto "Broadcast Yourself" which very well sums up the special feature of YouTube: the individualisation and personalisation of media, their rapid dissemination and cross-linking, and their specialisation (Noller/Ohrenschall 2021: 249-250). YouTube allows its users to feed self-created videos into its network without any great prior technical knowledge. In YouTube, the boundaries between reception and production are blurred, since the barriers to publishing one's own media are extremely low, and evaluating and commenting on published media are part of the platform's culture. One can therefore also speak of YouTube in terms of a new form of virtual television that has emerged from a synthesis with the Internet.[5] YouTube is not only a consumer medium, as the word "television" suggests but rather a medium for *acting* – for discussing and sharing one's own thoughts with a highly specialised community. This distinguishes YouTube from more traditional media such as explanatory videos: YouTube does not present separate videos but rather media that are deeply (inter)connected and subject to participation and interaction of the viewers and subscribers. The highly interconnected media structure of YouTube allows to create a space for discussion, sharing, and reflection.

Felix Stalder has pointed out the "enormous multiplication of cultural possibilities" (Stalder 2016: 10, own translation) as an essential feature of digitality. This multiplication is shown in recent numbers from YouTube.[6] The platform currently has more than two billion users, which corresponds to almost a third of all global Internet users. More than 500 hours of online content are uploaded every minute. Also, YouTube is highly specialised in terms of internationality since it is available in more than 100 countries and 80 languages. A particular advantage of YouTube – as well as a potential problem – is that it is a subsidiary of Google/Alphabet. This means that YouTube is directly connected to the largest search engine on the Internet, but at the same time it is also dependent on it with regard to financial interests.

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[4] There are some very well-known philosophical videologs and podcasts that are not on YouTube: "The Blog of the American Philosophical Association's Teaching and Learning Video Series", Gaurav Vaziranis "Wireless Philosophy", David Edmonds' and Nigel Warburton's "Philosophy Bites", and Peter Adamson's "History of Philosophy Without Any Gaps", just to name a few.

[5] See Strangelove (2010: 5-6): "YouTube is a social space. This virtual community reflects the cultural politics of the present times […]. YouTube is one of the most visible manifestations of a widespread change in how the Internet and a plethora of related digital technologies are being used. At the centre of this change are individuals and their amateur video making practices. This change is also part of a long-term transition in the nature of the audience from relatively passive consumers to fully active producers of moving images." Strangelove therefore speaks of a "post-television era" with regard to YouTube (ibid.: 5).

[6] Cf. YouTube for Press, Url: https://blog.youtube/press, accessed 7-15-2022.

These extreme dimensions of mediality in terms of size, internationality, distribution, availability, and use have led to various cultural developments of YouTube. First and foremost, there are highly specialised channels that are mostly managed by individuals and creatively oriented in terms of content. The quality of these channels is measured primarily by the number of subscribers and the number of videos watched. Individual *YouTubers*, also in educational channels, are real stars of the scene and far surpass TV stars in terms of awareness in their respective target groups.[7]

YouTube contributes significantly to the differentiation, order, and personalisation of the Internet and thus opens up a virtual space of content debate. So far, the phenomenon of YouTube has been the subject of theoretical reflection from a cultural studies perspective (Strangelove 2010; Burgess/Green 2018). However, in-depth didactic studies on it are missing.

2.2. Methodological Possibilities for Teaching Philosophy

Due to the high degree of customisation that YouTube allows its users, one very soon finds oneself not only in the role of a producer, but also in the role of a *dramatic advisor* and *designer*. This is because the large number of options for analysing one's own content, ranging from the number of daily views to the gender and average age of viewers to access sources and regions, make it possible to tailor content to one's target group. It is not without reason that the analysis menu is also called *YouTube Studio*. Its highly individualised and flexible nature gives YouTube the status of a *meta-medium*: it is not only a form of mediality, but also a *reflection* on its mediality. YouTube is a digitally transformed medium, but it also transforms it's users and their autonomy.

Due to its flexibility, YouTube allows to create a variety of teaching and learning formats (Noller/Ohrenschall 2021: 252-253):

1) conference, seminar and lecture recordings
2) live streams of seminars or lectures with live discussion
3) interviews
4) thematic broadcasts
5) podcasts

In what follows, these teaching and learning formats shall be analysed in terms of their philosophical significance:

1) YouTube is ideal for documenting, archiving, and following up on conferences, seminars and lectures, whether audiovisually or just acoustically. It is important to ensure that data protection is maintained and that students are not recorded acoustically or visually without their consent. The commentary function allows questions of understanding to be formulated, discussed, and answered after the event. A disadvantage of such recordings is their length and often lack of structure. It is therefore advisable to prepare or post-produce them in such a way that the audience can orient themselves using slides or move to the desired section using time markers. From a philosophical point of view, it is advisable to link the recordings to content that is related to it in order to realise a virtual reference network. By including other perspectives and

[7] Larger philosophical YouTube-channels are "Philosophy Tube" with 1.2 million subscribers and "Closer to Truth" with 500.000 subscribers, a smaller one is "PhiloCast" with 5.000 subscribers (as of 7-15-2022).

arguments, a *dialectic network* can be realised, which can activate the user to form her own opinion. Automatic speech recognition increases the accessibility of the content and allows the users to receive the media from both auditive and visual perspectives.

2) Students can comment on the content during the live stream, while teachers can record and respond to these comments while the stream is still in progress. A successful real-time broadcast depends largely on the quality and latency of the broadcast. Therefore, it must be ensured that all potential viewers can follow the broadcast well. Philosophically speaking, live streams can be used to initiate an *interactive discourse*, which allows to include references to other media by means of sharing.
3) Interviews allow to approach well-known philosophers for short talks on the fringes of conferences in a more unconventional way. This format is particularly attractive and motivating due to the possibility that younger students can gain their first experience with interviews of established philosophers. The challenge of interviews lies in the successful mixture of conception and thematic freedom: neither should the conversation be too schematic, nor should it digress too much from the actual topic. There should always be room for surprises and philosophical arguments that cannot be predicted in advance. From a philosophical point of view, interviews can also be understood in terms of a Socratic Dialogue, where the interviewer attempts to *challenge* the dialogue partner.
4) At the request of the students, shorter interviews or contributions can be created that have a specific focus on a philosophical problem. These broadcasts can then be used to accompany courses. The same challenge applies here as in the case of interviews, only in an even more rigid form: topic broadcasts should have a clear focus, but at the same time they should open up a free space in the consideration of the subject matter, as required by a philosophical analysis.
5) The difference between podcasts and purely thematic broadcasts consists in the greater uniformity of podcasts and their regularity. As a rule, podcasts should be more compact than thematic broadcasts. Due to the higher degree of concentration, the pure audio format is recommended so that recipients are not distracted by visual effects and can also receive the broadcast on the move, with low data consumption. This is especially important to teaching philosophy since the restriction to audio may help to concentrate on the very argument.

All these formats can help in various ways to make complicated contents and topics of philosophy more understandable. The most important way is to open philosophical problems for discussion, for sharing, and for connecting them with other problems and related media. YouTube thus opens up a virtual space that can be extended by participating, sharing, and discussing.

2.3. Problems of Teaching Philosophy with YouTube

A particular didactic challenge with YouTube is that the time spent watching a video decreases very quickly. It is therefore of great importance to keep viewers glued to the video for as long as possible. To maintain audience attention, the following points are of special didactic and dramaturgical importance (Noller/Ohrenschall 2021: 255-256):

1) *technical implementation*: the video should have an appropriate quality for its specific purposes. This means the shorter the broadcast, the higher should the quality be.
2) *profile and individualisation*: due to the highly individualised nature of YouTube, it is advisable to give the channel a clear and clean profile. This can be achieved primarily by choosing a suitable name, a logo and, if necessary, a motto.

3) *dramaturgy*: didactic videos and podcasts should not only entertain, but above all *activate* their viewers to interact by *discussing*. To this end, raising awareness of the problem and involving the participants are of crucial importance. This can be done by explicitly addressing the key questions and problems at the beginning of the video, and to refer to them in the course of the video. The involvement or "immersion" of viewers in a virtual philosophical discussion context and discourse can be achieved by having the broadcasts explicitly address issues that relate to- and continue existing teaching offerings such as seminar sessions, lectures or conferences. Regarding the dramaturgy of the videos and podcasts, it is important to choose a middle course between too rigid conceptualisation and too free reflection.
4) *interaction*: Compared to other platforms (e.g., *Dailymotion*, *Vimeo*), YouTube offers the decisive advantage of interaction with the subscribers and viewers of the respective videos. This can happen primarily in the comment section under the respective videos but also by means of polls that allow to consider the subscribers' interests. It is important here that the channel managers respond to the questions and comments of their subscribers and viewers as promptly as possible in order to maintain contact. Ideally, a philosophical YouTube channel creates an own culture, not only in terms of the topics to be discussed but also in terms of the *way* they are discussed.

To sum things up, YouTube proves to be a meta-medium that is also suitable for use in university teaching. Due to its wide distribution and number of users and subscribers, but also its intuitive operation, it is suitable for philosophy teachers to create, develop, and maintain their own channels. However, YouTube is not only restricted to philosophy teachers but even allows students to create their own channels and videos.

3. Problems of Interaction, Motivation, and Immersion – Games and Gamification

As digital games expanded from a marginal phenomenon to a widespread (and socially accepted) leisure-time activity[8], their influence on doing and teaching philosophy increased. Be it that they became a recognised topic of philosophical research when for example the moral status of actions in games is examined (Ulbricht 2022). Or that their usage in philosophical learning contexts is reflected on, which is the focus of this contribution.

3.1. Digital Games in Teaching Philosophy

There are at least three different ways to include games or their elements in philosophical teaching.

Firstly, digital games can function as a vivid example of a philosophical theory. For example, when Ayn Rand's philosophy is reflected in *Bioshock* (Rehse 2020: 75f.) or Alan Watt's recorded lectures are presented in *Everything* (Lehner 2018). But this does not only help to illustrate abstract philosophical theories. It also shows learners that philosophy and philosophising have something to do with their everyday life and even their leisure activities like playing digital games. The motivation to learn to philosophise can be increased in this way.

A *second* possibility is given through gamification, which means using aspects of digital games to motivate students. Two core mechanisms of gamification are a) constant, immediate visible feedback of progress as can be shown on a digital learning platform and b) competitive

[8] According to the yearly conducted, popular German JIM-study, 72% in the 12-19-year-old group are regularly using digital games (see JIM-Studie 2021: 56f.)

elements like high-score lists, leader boards etc. (Tolks/Sailer 2021: 519-521). While a) could be helpful to deal with specific challenges of philosophy, like developing arguments or reading required literature, b) is pedagogically questionable. In philosophy, students should be encouraged to come up with a wide range of answers to one and the same problem and to engage in critical discussion and argument. It is already hard enough to find and communicate criteria for grading philosophical papers as is required by the educational system. A detailed high-score list with leader boards showing who did "best" in a course-assignment would likely even counteract the specific aims of philosophising: searching for an answer to a fundamental question by carefully deliberating about reasons and their quality. Quantification is out of place here - or at least must be carefully implemented, so that it does not contradict the aims of philosophy and philosophising. In a beneficial way this is done, for example, in philosophical competitions like the International Philosophy Olympiad[9].

There are a couple of other gamification elements like Storytelling, which are supposed to enrich formal learning contents (data, math) and are thus not very helpful in philosophy. However, team building is an element which is supposed to a) mitigate the negative effects of competition and b) encourage collaborative learning (Tolks/Sailer 2021: 524-525). One can say that teams and collaboration in general are already established methods in analogue learning contexts - and rightly so. And yet, in teaching philosophy a *competition* of teams is still not recommended, because a) is based on a "common experience of failure" (ibid.). Unlike other subjects, it is hard to define what even counts as "failure" in philosophical discussion. Therefore, collaboration and team building in philosophy always have to be done in a manner that fosters philosophising as an end and not a means to the end of "winning".

Thirdly, digital games can initiate philosophising in philosophical learning contexts. Especially games with a so-called branching story, i.e., a story in which the player's decisions influences the development of the story, can be used to ethically reflect with students. But while critics could argue that this can also be done by presenting a well-structured but analogue dilemma, digital games enable teachers to realise learning possibilities that are not realisable in the same way without them (redefining in SAMR). Because it is a well-recognised problem of teaching ethics to foster agency in the classroom, we now focus more closely on how digital games might help here.

3.2. Using Games to Foster Action-Oriented Approaches

Again, there are at least three different ways to do so. *One* possibility is to use games as laboratories in which students can act in a way they can or should not outside of them and thereby enable students to reflect on philosophical questions. For example, the game *Minecraft* can be used to facilitate reflections on human nature and moral and legal regulations and their origin (Maisenhölder 2018). To realise this, students are put in the virtual world together as players. The world in Minecraft (at least in survival mode) is full of 'natural' and computer-controlled hazards like animals and monsters. One can drown, starve, or be killed by computer-controlled characters. But since the other players on the server are not bound to rules given by the developers, they can also become hazards for one's own survival in the game. They have

[9] Similar formats could be implemented in one's own teaching of philosophy in school classes. However, they might lead to demotivation of the lower-achieving students. Entering philosophical competitions is normally done voluntarily. Therefore, only those who like to write and have achieved certain skills in doing so, take part.

the freedom to harm or kill other players' characters, steal from them or destroy their buildings and other property. The game world, its possibilities, and what happens within the game world inhabited by the students therefore enable them to critically reflect on anthropological and ethical questions. The question that arises is: is what is happening in the game world something that would and/or should also apply to the world outside of the game? And what are the respective reasons for it? Using digital games in philosophical learning contexts in this way could, again, have a positive influence on the motivation of the students. If learners realise that philosophising does not necessarily depend on written texts but can also take place in other forms of media or at least can be initiated by them, their motivation to philosophise can be increased. This seems to be particularly true for students coming from contexts where reading and writing texts is not part of the media habitus. By philosophising in, with and about computer games, a path into philosophy can be opened up for these students.

A *second* possibility is to use games to confront students with unique experiences like in the award-winning *Notes on Blindness*, a short VR Game where players find themselves in an almost dark world while sounds are forming schemes out of white dots giving mere hints about their surroundings. The experience features the autobiographical thoughts of author John Hull who lost his eyesight in 1981. Unlike a movie the feeling of insecurity, created by the immersive power of a virtual environment, is intense - players are left in a thoughtful, puzzled mood. Philosophy classes with access to VR devices could be an ideal place to reflect and discuss these kinds of "alien", immersive experiences together. Other so-called "serious games" like *This War of Mine* (non-VR) are designed to make players think about relevant topics, in this case, their own actions and decisions as a powerless being in a war-torn world. However, what is missing from single-player experiences like these is the reflection and dialogue with others. While there are game forums where players engage in discussions, these focus on strategies, hints, the "best" way to win a game, maximise profit and reach certain goals. Philosophical discourse in class could highlight entirely other aspects, ethical and theoretical points of view. By this, the role of the players as "ethical co-creators of the ludic experience of computer games" (Sicart 2009: 226) is taken seriously and players are prepared for it. Discussing digital games in class does not only foster philosophical skills but also what can be described as media literacy (Jenkins et al. 2009).

A *third* possibility is to use games designed to explicitly initiate philosophical arguments or transport philosophical content like in the Game *Here* (http://here.gua-le-ni.com/; 12.11.2022). However, this area is, as of today, rather a niche and there are not many convincing approaches able to compete with "professional" products emerging out of the commercial game sector.

To sum up, there are multiple possibilities in using digital games or their elements to initiate or encourage philosophical reflection in school and university classes. While some of them could be replaced by analogue teaching methods, the range of options to (inter-)act, for example in digital open worlds, is much wider. It is not hard to encourage and motivate discussion via immersion and a certain intensity of experience which most students are already familiar with. The potential of using digital games in class is easily underestimated - they can be invaluable for teaching philosophy.

4. Problems of Complexity – Concept- and Argument-Maps

Problems of complexity are ubiquitous in philosophy and in the teaching of philosophy alike -

and they come in many forms: philosophical arguments, theories, thoughts, and texts can be complex in a potentially problematic form, which may present a challenge when teaching philosophy. Preliminarily, complexity can be characterised as the property of something being composed of parts that relate to each other in multiple ways (cf. Scholz 2020: 33–34). For example, if the meaning of a sentence is composed of the meanings of other linguistic entities (such as expressions), it is complex. Complexity creates problems when it is intransparent to somebody how the individual parts relate to the complex whole, e.g., when a reader cannot identify the relationships between words in a sentence or between statements in a longer text.[10] Academic philosophy has created and critically discussed tools for various cases of problematic complexity. Two such cases will be the topic of this section because they are particularly relevant to philosophy and its teaching: 1) complex (relations between) concepts of an author or theory and 2) complex (relations between statements within an) argumentation of a text, author, or theory. The tools to cope with these types of complexity rely mainly on two ideas: visualisation and standardisation (up to formalisation).

These academic tools can and have been transformed for educational purposes. In both academic and educational contexts, software has been developed to support using them. Discussing this software, we will weigh the benefits and drawbacks of digital over non-digital tools and vice versa.

4.1. First Step: Analysing the Structure of the Problem

Because it is an essential feature of philosophical problems of complexity that their structure is not obvious, an analysis of the structure is necessary at first. In principle, there are four relevant forms of conceptual or argumentative complexity here. We can analyse a *single concept* or a *group of concepts* as well as a *single argument* and a *group of arguments*.

1) *Single-concept analysis* tries to identify simpler parts, i.e., other concepts, that compose the whole concept. E.g., *bachelor* is often analysed as being composed of *unmarried* and *man*, because each bachelor is an unmarried man. This method presupposes that single concepts can in fact be analysed and therefore are composed of other concepts. It has been criticised heavily because many attempts to analyse philosophically interesting concepts have systematically failed; so much so that Margolis and Stephen (cf. 2021: ch. 2.1) state that "none [such attempts] are uncontroversial."[11] However, even if as a philosophical method single-concept analysis may be problematic, it can still be fruitful as a didactical tool to help understanding a concept.
2) C*oncept-group analysis* tries to gain an understanding of the conceptual characteristics of an author's theory by identifying specific relationships between the primary concepts used.[12] Examples of generally applicable relations are *having an/the opposed meaning* (antonymy), *referring to something more specialised/generalised* (hyponymy), *referring to a part of*

[10] As this example shows, problems of complexity can be seen as a special category of problems of comprehension or understanding (cf. Scholz 2020: 32–33) - but only if the latter is not limited to understanding of human language, as complexity is not limited in that sense either. Logical, causal and many more types of relations and compositions can be complex (cf. ibid.: 31).

[11] The best-known example is the concept of *knowledge*, which cannot be analysed as a *justified true belief* due to the Gettier cases.

[12] To decide which concepts are primary for any author is a challenge on its own - however, it is one that has to be put aside for now.

(meronymy) or *meaning the same* (synonymy) (cf. Murphy 2009: 9) - but there are many more. More interesting than these general semantic relationships are those that are specific to a particular theory, e.g., those between practical reason and pure reason in Kant's philosophy. There is no deterministic algorithm to identify concept relationships, as is the case with most hermeneutic tasks. Information about concept relationships can be gathered by a) analysing and interpreting sentences that include two relevant concepts or b) interpreting expressions containing isolated concepts and comparing the information about different concepts that is gathered this way.

3) *Single-argument analysis* helps to understand the structure and quality of an argument. Arguments are sets of statements such that some of these statements (the premises) are intended to support another of these statements (the conclusion) (cf. Groarke 2021: ch. 1.1; ch. 2.1). Usually, arguments are not presented such that it is immediately clear what the premises are and sometimes it is not even clear what the conclusion is. In rare cases, it is debatable whether an argument is made at all. To reduce complexity, it is typically advisable to reconstruct the argument in standard form (cf. ibid.: ch. 3) to explicate its structure and to be able to evaluate its quality (Brun/Hirsch Hadorn 2018: ch. 8). The latter typically amounts to analysing the validity, soundness, and cogency of the argument (cf. Feldman 2014: ch. 5). If the structure is particularly complex, it can even be necessary to formalise it to be able to check whether it's valid (cf. Bowell/Kemp 2010: 78f.). Argument reconstruction is a hermeneutic act that usually does not yield one correct solution, but several more or less equally plausible interpretations.
4) *Argument-group analysis* is useful to understand complex arguments, in which multiple arguments are given to attack or support (possibly more than) one claim. In this case, one does not only need to reconstruct the individual arguments but must also explicate the potentially complex relations between them (Betz 2010: 51f.). In most cases, pro and contra lists are insufficient to clarify argumentations, since the arguments are not all attacking or supporting one claim in the same way. Some arguments represent pro reasons in the sense that they attack the premise of an argument that attacks the claim. Other arguments represent contra reasons in the sense that they attack the premise of an argument that supports the claim. Yet other arguments represent reasons that are entirely independent of each other by attacking or supporting the claim directly - and often they attack or support different (albeit thematically related) claims. The following relations should be differentiated in an argument-group analysis: when an argument *supports* a claim, its conclusion is identical to that claim. When an argument *attacks* a claim, its conclusion is identical to that claim's negation. When an argument *supports* another argument, the conclusion of the first argument is identical to one of the premises of the second argument. When an argument *attacks* another argument, this can mean several things: an argument is undermined if its premises are attacked, it is undercut if the connection between its premises and its conclusion is attacked, and it is rebutted if another argument is given for the negation of its conclusion. Also, claims can have argumentatively relevant relations between each other: they can be *contradictory* (one claim is the negation of the other) or *inconsistent* (holding both claims lead to contradictions), they can be *synonymous* (both claims have the same meaning) or *equivalent* (both claims have the same truth conditions), or they can be *consistent* (both claims can be true) (cf. Betz 2020).

4.2. Second Step: Deciding on a Type of Visualisation

In a second step, we may decide on a type of visualisation. Because the result of any successful analysis is a description of the interrelated parts of the analysed object, they can be represented

by a graph whose nodes are the parts and whose edges are the relationships between those parts. The results of argument-group or concept-group analysis are often represented by a visualisation of that graph, called argument-maps or concept-maps respectively. These two types of representation are the key ideas behind the analysis software built for those object-groups. For both map types, different design approaches exist (regarding arguments cf. Freeman 1991: 1–6, 168–179, 259–262; regarding concepts cf. Davies 2011: 284–285).

The results of single-concept analysis are mostly presented verbally in the text in which they are developed or quoted. Of course, it is possible to create concept maps of single-concept analyses, even though they realise only a small part of their potential due to the relatively low complexity. Greater value could lie in the use of Venn diagrams: they can properly visualise the relations between the involved concepts and thus promote their understanding.

Some standard, not graph-like, notations for single-argument analysis exist. Most notably, the standard form originally used for deductive inferences: premises and conclusion are listed vertically, then a horizontal rule is drawn between the premises and the conclusion (cf. Freeman 1991: 11). This is primarily a textual representation of information, clarified only by standardised layouting and order - not by further visualisation. As with concepts, argument maps can be used to visualise single arguments, though they will not necessarily present all premises. Single-argument maps are typically not clearer or more vivid than the standard notation, having room only for shortened variants of the premises and conclusion (cf. ibid.).

In general, single-entity analyses differ from group analyses with regard to the role visualisation can play. Single-entity analyses yield only little relational information. They are mostly concerned with correctly and precisely identifying the parts of the single entity in question, i.e., sub-concepts or premises and conclusion. The visualisation of this information is often not much more than an afterthought: it does not substantially support identifying the correct parts. Visualising single arguments or concepts as graphs (or Venn diagrams) might, however, be helpful when an analysis' result is to be presented, for example as part of an explanation by a teacher or student.[13]

In contrast, while analysing a group of entities, there are many entities and relationships involved and most of the information gathered is relational. The latter aspect entails that any new piece of information can instantly be recorded on a map visualisation. Moreover, there are often unknown relationships to be discovered. Visualising the current progress and all known entities can inspire those discoveries. There are thus great benefits to using map visualisation already during the process of concept-group or argument-group analysis.

4.3. Third Step: Deciding on Digital Tools

Finally, the question arises of whether digital tools are suitable for this visualisation. For both concept as well as argument mapping, too many digital tools have been created for us to discuss all of them in detail - in no small part because many of them have existed for decades (cf. Buckingham Shum 2003: 10; cf. Cañas et al. 2004: 126)[14] and are developed for a variety of

[13] Since this focus precludes further discussion of concept analysis visualisation by Venn diagrams, it should be mentioned that there are specific digital tools for Venn diagram creation. E.g., *InteractiVenn* (see Heberle et al. 2015).

[14] Because software typically does not live that long many projects have already been discontinued. For example, *Argumentative* or *AGORA*. Some, like *Reason!Able*, have been replaced by newer projects (cf. Tim van Gelder's Homepage, URL: https://timvangelder.com/software/, accessed 12-20-2022). Scheuer et al. (2010: 93) speculated

fields (cf. Diaper et al. 2003; cf. Cañas et al. 2004).[15] While most concept mapping tools are highly adjustable with few strict rules of how to use them, some argument mapping tools are more restrictive.

Concept mapping software like *CMaps* or *MindMup* allow creating nodes and links of various shapes and labelling them freely. Some tools even allow adding images, files, hyperlinks, or embedded child concept maps as nodes. While argument maps are supposed to represent only inferential relationships between claims and arguments, some argument mapping tools can be used quite flexibly. Most argument mapping tools like *Araucaria*, *Athena*, and *Rationale* allow to directly create boxes and arrows that represent the claims, arguments, and relations between them.

In some tools (such as *Argdown*) the premise-conclusion structure of arguments can be specified in addition to the relationships - though it is not necessarily visualised in the argument graph. These tools thus combine the single-argument and group-argument analysis and are able to record argument relationships, e.g., attacking an argument's premise in more detail.

Of course, concept and argument maps can be (and have successfully been) used non-digitally as well. Concept and argument maps can be drawn on blackboards or created e.g., with paper sheets (for the claims and arguments) and strings (for the relations) on pin boards. The use of digital concept and argument maps is generally preferable if it actually facilitates a more constructive exchange between the students. For instance, many of these tools allow for cooperative online work on the respective maps, which obviously eases remote cooperation (e.g., during home projects) but also supports learning at school: all students working together on a map automatically share the results and they have easy access to alter the map and propose changes. There is no single poster or pen that must be requested to make a suggestion or change. Additionally, digital maps are forgiving and flexible: each change can be rolled back; alternative versions can be created independently in separate files. Thus, the costs of experimenting are greatly reduced and the digital planar background is the ideal playground to propose ideas instead of finalising results.

Aside from the interaction between students, digital tools can support single users in their analysis: some tools such as Argdown restrict map creation, which is great for didactical purposes. They enforce standardisation through templating (cf. Scheuer et al. 2010: 90; Hoffmann 2018: 193–194) or the automatic generation of maps. This may seem problematic at first glance, but in fact, helps keep the didactic goal in sight by reducing the challenge and allowing learners (and teachers) to progress step by step. Aside from strictly enforcing structures, some tools try to further aid the mapping process by structuring the process analysis as well (cf. ibid.: 194–196; Butchart et al.: 2009). These approaches additionally support the learning of argument analysis by giving automated and instant feedback on a learner's actions as well as hints guiding the next step. In the future, there will likely be even more automation in educational settings, for instance, when concept and argument mining are employed to facilitate the reduction of complexity and to guide the understanding of philosophical theories and debates.

To sum things up, while the use of digital concept and argument mapping tools for

about the specific reasons for the short lifespans of argument mapping software.

[15] To give an overview of the utility of these tools we will concentrate on their general approach while disregarding many aspects that would be relevant in a traditional comparative software review.

educational purposes has some advantages there are also advantages of using concept and argument maps non-digitally. It eventually depends on the educational purpose and the context of the didactical intervention.

5. Problems of Implicitness – Feedback in the Classroom

Feedback has been considered one of the most effective causes of successful teaching and learning since John Hattie's meta-analysis "Visible Learning" (Hattie 2009: 173). For Hattie, all sides of the didactic tetrahedron are activated with reciprocal feedback by teachers and learners and transparency of the subject content and classroom resources. The forms of feedback that Hattie analyses are based on data. Therefore, it is reasonable to conclude that digitality makes feedback in philosophy classrooms much easier. One of the current problems of teaching philosophy is that much remains implicit, although it could be used explicitly for teaching and learning. Tanya Hall, Dean Tracy, and Andy Lamey have pointed out that philosophy classes always have a specific feedback problem due to their level of abstraction: "Of particular concern in philosophy is the worry that students may misunderstand the distinctively philosophical language, learning objectives, and purpose of their feedback" (Hall et al. 2016: 137). We will first argue why digital feedback offers not only opportunities but also problems. We will then show why digital feedback tools can be of use in teaching philosophy, especially when it comes to compensate for testimonial injustices and explicate learner intuitions.

5.1. Opportunities and Problems of Digital Feedback

There is significantly more convenience in all forms of feedback in digitality, whether it be performance checks, formative assessments, teacher feedback, or spontaneous queries for topic identification or positioning within debates in the philosophy classroom. Philosophy teachers, especially in higher education, regularly use learning platforms like *Moodle* for feedback. In comparison of digital and analogue teaching in university-level philosophy classes, Frank Brosow, Patrick Maisenhölder, and Leonie Seng come to several arguments for the usefulness of digital forms of feedback (2022: 16-17). These can be summarised as follows:

1.) Digital forms of feedback, such as online submissions with forms of subsequent commentary and discussion, promote the activation of individual students.
2.) For introverts, who often have just an affinity for philosophy, indirect communication via digital platforms can often be what enables them to participate in class.
3.) Summaries, for example of argumentations, or completely automatic forms of feedback save time and lead to a relief of the teacher.
4.) Not only data as work results, but also data about the work process are visible. Teachers and peers can also provide feedback on this. This is especially relevant for time-consuming philosophical work, such as essay writing (cf. Wilson 2006).

Nevertheless, there are also some weighty counterarguments from philosophical tradition (Brosow et al. 2022: 21-24):

1) Direct, often physical forms of feedback are important in classroom discussion in philosophy that can only take place in engaged discussion.

2) Digital feedback is easier to ignore. However, in the case of philosophical questions to which there is no clear answer, it is precisely the endurance of other opinions that is a significant educational step.
3) The best arguments for feedback may only be formed in active conversation.

Vicky Roupa (2021), in an empirical study conducted at the Open University in 2015, revealed some further problems with digital forms of feedback in philosophy:

4) There is a temporal and spatial separation of action and feedback. Especially with the complex contents of philosophy, references are sometimes not clear.
5) Especially when philosophy is not a major or, as in the case of the Open University, students work full-time on the side, student feedback is often the first thing to fall victim to time savings.

Some of these problems vary with the digital means one uses. For example, the problems with lack of simultaneity are no longer present when one uses real-time digital feedback tools rather than learning platforms. In philosophy classes at schools, it is precisely these tools that are popular. *Kahoot* provides a tool that students use to readily complete knowledge queries. Teachers can use predefined multiple-choice questions or create their own series of questions. These can then be completed in class by students on their mobile devices under time pressure. The login pin of the created Kahoots on the page for players and a common browser are sufficient here. Kahoot clearly benefits from the motivational aspects of gamification described above. Many philosophy instructors now use short queries, such as those created with Kahoot, *Quizlet*, or even *Google Forms*. However, there are also reservations, especially about knowledge queries in philosophy classes. As the Swiss philosopher Roger Hofer has pointed out, knowledge is not already given in philosophy classes, but is methodically constituted in classroom discussion (Hofer 2012: 133). It may not be knowledge, but a different learning prerequisite - the learners' intuitions - that provide a special opportunity for digital forms of feedback in philosophy classes.

5.2. Feedback Is Making Intuitions Explicit

The power of digital feedback in philosophy classes becomes clear when the intuitions of learners are elicited. Through the appearance of experimental philosophy, three things have become clear about teaching philosophy as well. *First*, philosophy depends on intuitions (cf. Chalmers 2014). *Second*, these intuitions can be assessed experimentally. And *third*, intuitions obtained from laypersons differ significantly from intuitions assumed by philosophers and even philosophy teachers. Knobe and Nichols see this new focus on intuitions as the very starting point of the experimental philosophy movement:

> Experimental philosophers proceed by conducting experimental investigations of the psychological processes underlying people's intuitions about central philosophical issues. Again and again, these investigations have challenged familiar assumptions, showing that people do not actually think about these issues in anything like the way philosophers had assumed. (Knobe/Nichols 2008: 3)

Something quite similar is also true for learners' intuitions, they are once again quite different

both from adults' intuitions and from the intuitions assumed in the so-called armchair philosophy. These prerequisites for learning are nowadays subsumed under the term "pre-concepts" (Thein 2020; Bohlmann 2022). Although the ontological status and linguistic structure of these concepts is still controversial, they can be empirically collected and captured not only through research but also in the classroom. Digital technologies are particularly suitable for this purpose because they can quickly and anonymously make implicit presuppositions about philosophical content visible (cf. Bohlmann 2019). There are numerous technologies with which this is already possible today. Elaborated forms of real-time feedback including graphical representation in diagrams, term clouds, or votings are possible with *Mentimeter*, which is already widely used today. The growing literature on conceptual research may provide clues for teachers as to the direction in which an exploration of student intuitions might be worthwhile in the classroom.

5.3. Dealing with Testimonial Injustice Through Automatic Anonymisation

Digital feedback options may not only be useful in phases of intuitive and open problem solving. Dominik Balg has pointed out that digital possibilities of anonymisation can also be useful in later argumentative and discursive phases. Not only teachers, but also other students evaluate the argumentative contributions in philosophy classes in these phases:

> Philosophy classrooms are places where philosophical questions are discussed and where students can present and defend their own arguments and conclusions. Given this, philosophy classrooms are also places where students are constantly encouraged to assert their philosophical views and to epistemically evaluate each other's arguments. (Balg 2021: 4)

These judgments may be clouded by testimonial injustices. This concept goes back to Miranda Fricker (2007: Chapter 1, 2). Testimonial injustice means that epistemic deficits can be unfairly attributed to individuals based on their identity-based characteristics. Such injustices can have *practical* and *epistemic* consequences. Fricker gives the example of an Egyptian woman working in Cairo who writes a policy proposal on a piece of paper in meetings and gives it to a man. So the proposal is discussed, but it usually has the *practical* consequence that the woman is never credited as the originator of her ideas (Fricker 2007: 47). However, the *epistemic* consequences are similarly serious in such cases and, in short, lead to affected persons themselves losing confidence in their abilities "to such an extent that she is genuinely hindered in her educational or other intellectual development" (Fricker 2007: 47f.). For this reason, testimonial inequities are particularly serious in the classroom. For a class that deals with ethics, providing space for testimonial injustices in discussions is untenable. However, it is difficult to eradicate testimonial injustices, which are often based on unconscious biases, through attention alone. So this is where possibilities of anonymisation through digital tools can take effect. Balg suggests the "attribution" feature of *Padlet* as a concrete possibility (Balg 2021: 10). The problem of the implicitness of philosophical content is here once again framed a little differently and in a certain way heightened. That which is normally always explicit in teaching - the identity of persons - is a problem against the background of testimonial injustice and is to be veiled. Only what is otherwise implicit becomes the content of the lesson, i.e., positions, concepts, and arguments independent of the respective identity. But there are some problems. Balg points out that we do not yet know enough empirically about whether student identities

can actually be effectively concealed in this way in practice, and whether such short-term practical solutions, if they are, also have long-term effects on the extent of testimonial injustice (ibid.: 17). One could also still argue that viewpoints, at least in ethical debates, are not really well separable from persons and their identity. In addition to these problems, there are some practical difficulties that affect all forms of anonymisation in the classroom, whether in pre-concept or argument phases. Teachers need to be aware that incoherent and sometimes abusive anonymous posts can occur. A serious and respectful approach must be established here in advance. There are already some functions to block certain speech in some tools, but they do not suffice by now. Especially against the background of anonymous and direct forms of feedback, philosophy classes could also be a place where a "netiquette" is developed in ethics education.

6. Conclusion

Our culture is changing with the dissemination of digital technologies into all areas of society. Its "digitality" (Stalder 2016) is changing philosophy and teaching in general. Therefore, it has numerous implications for the teaching of philosophy. We have captured here some problems in philosophy teaching for which digital methodology may offer solutions. This is a pragmatic understanding of the methodological implications of digital technologies; we were not concerned here with best practice examples, nor with the general possibility or impossibility of digital philosophy teaching. Instead, it was about describing new potentials in certain problem areas with a clear view of opportunities and risks of digital technologies.

A key means by which philosophical theorems are made understandable today is through pod- and videocasts. While, especially in university teaching, conference and seminar recordings, interviews or thematic broadcasts decisively expand the repertoire of philosophical teaching, the control of the reception time is a weighty didactic problem. Digital games can address problems of interaction, motivation, and immersion, leading close to the formation of real agency in the ethical domain. There are philosophical theories in games, philosophy lessons can be gamified, although there are some pitfalls here. Most importantly, digital games can initiate philosophising. Complexity is a central problem of philosophical processes of understanding. There are visualisations of argument and concept structures that help with this. Digital tools can both promote exchange among students and, in the sense of scaffolding, support individual learners in formulating arguments and analysing concepts. Philosophy teaching works with learners' intuitions when it comes to connecting to students' intuitive conceptions of philosophical content. The possibility to exchange intuitions anonymously and spontaneously holds potential for a digital methodology in teaching philosophy.

Methodology, by its very nature, is not fixed; this is an essential difference from methods. Because all these new digital solutions through digital methodologies in turn generate new problems, this is only a first intermediate state. With an ever-changing digital culture, new methodologies and solutions to problems will emerge. Some of these solutions will certainly have to be added to this list here in the future.

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