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Cinematography practice as Project Pedagogy

Abstract

In this article, I contrast the effectiveness of the presentation-based teaching strategy (frontal instruction) with project pedagogy, another teaching strategy derived from the constructivist learning theory. Furthermore, I point out that the traditional cinematography practice used in the training of cinematographers since 1949 is based on modern pedagogical ideas, i.e., it mostly corresponds to a project pedagogy-based teaching strategy formulated on the constructivist learning theory.

Key concepts: project pedagogy, cooperative learning, frontal teaching, learning theories, behaviourism, constructivism, cinematography training, cinematography practice

Introduction

I taught László for two semesters in a university preparation course. He was an enthusiastic and hard-working student, never absent from class, always attentive and always taking notes.

The subject was cinematography, but—contrary to the usual practice at the Hungarian University of Theatre and Film Arts—I taught the classes in a classroom instead of a studio. This was the arrangement that was available then and there. I projected film clips on the screen, made presentations, but also did a lot of

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drawing on the *flip chart*. Among other things, I also talked about *upstage* and *downstage* lighting design. (These two approaches are the basic building blocks for thinking about lighting.) I talked at length and in detail to the students about the advantages and disadvantages of these lighting constructions and the difficulties of their application, but I emphasised in summary that the *upstage* technique portrays the face more plastically, and in a sense more aesthetically, than the *downstage* method.

Soon after, László applied for admission to a university course in cinematography. He went through to the third round of entrance exams where the candidates had to create a series of photographs based on keywords.[1] The images that László produced revealed that he had walked into all possible traps of *upstage* and *downstage* construction while taking those photographs. He showed the photographs on the projector, and I pointed out the weaknesses of the lighting design. With great difficulty, he recalled what he had learned in the preparatory course, but he had failed to remember it while taking the photos, and he certainly had not been able to apply it.

During the course, I had explained the material, adding illustrations and drawings, doing my best with the classroom, the projector and the *flip chart,* but László's case proved that the effectiveness of the method was not satisfactory.

This is not an isolated case. I have experienced it several times, and my colleagues often report similar experiences. We repeatedly encounter the fundamental problem of the above-mentioned method of *frontal teaching,* a presentation strategy derived from the *learning theory of behaviourism,* where it is often found that the effectiveness of the retention of new information is low.

It is likely that György Illés established this form of education not so much because of his expertise in the science of pedagogy, but rather because his pedagogical skills and his instinctive educational concept, proven over the decades, suggested the use of cinematography practice in education. The educational conditions of 1947, i.e., the period immediately before the institution became a college, are well described by Géza Radványi[2] (Szabó 1955, 198): "As a matter

1 Of course, photographs taken in a particular light can also have an upstage or downstage lighting construction, depending on where the subject and the camera are positioned in relation to them and which direction the subject is facing.

2 Géza Radványi had already been asked to teach filmmaking at the future College of Theatre and Film Arts, and it was then that he shot his film *Somewhere in Europe*, in which György Illés was the assistant cinematographer alongside Barnabás Hegyi.

of fact, we started out not knowing what to do. […] I actually had to learn while teaching. I had to learn how to teach film at all. There were no established systems back then. […] Perhaps the most important discovery I made was that you can only teach film if you make film."

All this echoes the way the project method evolved as an educational strategy. The roots of project teaching go all the way back to seventeenth-century Italy and France, where a project was a large-scale construction plan drawn up by students of architecture. While the practice is rooted in the old days, constructivism, which provides the theoretical background for the pedagogical strategy at issue, only emerged as an epistemological movement in the 1970s.

The introduction of cinematography practice may also have been dictated by the inevitable practice-orientation of artistic training in general, as well as by the fact that at that time the theoretical background of cinematography training was not adequately formulated, so no one undertook to teach purely theoretical courses.

At the same time, it is also important to see the differences between the cinematography practice applied at the College (later University) of Theatre and Film Arts and project pedagogy, which has matured into an approach with established traditions and experience. In my paper, I will discuss these differences and try to prove that if we apply the methods of project pedagogy with more thorough preparation and thoughtfulness in the implementation of cinematography practice, we will enhance the effectiveness of cinematography training.

I find it important to clarify that I do not intend to make discoveries in the science of pedagogy, and I do not aspire to the label "pedagogical treatise", but I merely wish—somewhat summarily and using simplified terms—to incorporate, i.e., to adopt existing research findings and attempt to use them.

Learning theory background

It is a fundamental goal of the Zsigmond Vilmos Zsigmond Institute of Cinematography (ZSVMMI) to provide its students with up-to-date and marketable knowledge. Students acquire this knowledge through learning. It is therefore inevitable to clarify the concept of 'learning' and to delve into the world of learning theories and teaching-learning strategies.

The meaning of the word 'learning' can be examined in everyday terms, but also in psychological and pedagogical terms. For us, it is worth focusing on the latter two.

Although theories in the psychology of learning often define 'learning' in slightly different ways, they agree on the crucial role of memory and the availability and retrieval of information. Although learning is most closely related to remembering, the concept of 'learning' has recently been given a broader psychological interpretation, which can be understood in its relation to psychic processes, and which includes the development of the whole personality and of all intellectual capacities (Virág 2013, 16). This concept is also in line with the pedagogical interpretation, according to which learning is not just about acquiring information, but also about shaping behaviour. This is particularly true in the case of art education since the aim of education is not only to achieve memorisation, but also to activate and develop all cognitive functions (perception, memory, imagination, thinking), and also since education focuses not only on cognition, but also on action, i.e., the practical application of what is learnt.

Cinematography is a highly complex activity, therefore the training of cinematographers also involves preparing students to analyse problems and problem situations and to learn how to solve them, as well as teaching them various practical actions (psychomotor skills), social attitudes and behaviours (communication, cooperation, the ability to compromise, processing states of mind, etc.).

In any case, it is clear that the issue of learning in a pedagogical context is not independent of the psychological approach, since learning is mostly viewed in relation to the individual, and the individual is a system examined by psychology (Virág 2013, 17). It is therefore no coincidence that the development of learning theories is inseparable from the evolution of psychological approaches and that learning theories are thus based on psychological movements such as behaviourism, cognitivism or constructivism.

As I promised in the abstract, I will later contrast the effectiveness of the presentation-based teaching strategy (frontal teaching) with that of another teaching strategy, project pedagogy, which is grounded in constructivist learning theory. In order to make the juxtaposition understandable and usable for us, educators, it is essential to see how a teaching or learning strategy relates to learning theories.

Learning theories examine learning in general terms, whereas a "learning strategy is a process plan, a particular set of activities to participants achieve a specific learning objective" (Cube 1999, 59).[3] In another formulation, "an educational strategy is a complex system of methods, tools, organisational forms and ways of achieving specific objectives which is based on a coherent theoretical foundation, has a specific syntax (a definition and sequence of steps to be taken) and is implemented in a distinctive learning environment" (Falus 2003, 246). A third approach "interprets strategies as systems of activities that result in the mobilisation of forms of thinking and actions that make it possible to solve the didactic task and the development of the corresponding skills. In this interpretation, strategies have a dual purpose: to acquire knowledge and to foster intellectual skills" (Nagy 1997, 57).

Nevertheless, the definitions of educational strategies coincide in that an educational strategy describes how to organise the course of education in a particular case, in what steps, using what infrastructure, etc., while in the midst of the practical tasks, we do not forget about the theoretical background, the learning theory that provides a framework for our activities, i.e., the educational strategy is based on forms of learning that can be traced back to psychological foundations. Learning theory is manifested for the teacher and the student through the teaching strategy.

The learning theory of behaviourism and the characteristics and problems of presentation strategy

Behaviourism was the dominant paradigm in psychological research in the first half of the 20th century. This school is not concerned with the physiological processes that underlie behaviour. According to this model, the organism is a black box, whose functioning we try to predict from regularities that can be determined based on input (stimuli) and output (reaction). In the behaviourist perspective, learning is nothing more than the generation (conditioning) of responses (reactions) to a stimulus (stimulus) and the resulting behavioural change. This approach focuses on the teacher and the subject matter.

Today, the dominant strategy of Hungarian teaching practice is the presentation strategy (often referred to as frontal teaching), a common form of

3 The quote is my own translation.

classroom work, which is typically based on the learning theory of behaviourist psychology. The teacher stands in front of the students in the classroom, explaining the material. Optimally, he or she also uses aids (draws on the board, shows presentation materials, etc.), but mostly and principally the information to be processed is conveyed to the students through the linguistic sign system. In other words, the presentation strategy is a strategy for transmitting and receiving information. The assumption is that if information is communicated to the learner in the teaching-learning process, the learner will understand and remember it as a result of the explanation.

Since instruction based on a presentation strategy mostly and essentially uses a system of linguistic signals to convey information to the learner, it is worth classifying the types of linguistic expression typically used in instruction according to the level of verbality and the amount of other information that helps to process the linguistic elements (Gyarmathy 2015, 49):

- **Reading:** It represents the highest level of verbality. The processing of the text is supported by nothing but the verbal material itself.
- **Reading out:** The specificity of the material read out is that only the linguistic elements are available, but the reader can segment and interpret the linguistic material by his/her emphasis and tone of voice. There are good readers who make the text easier to process and more enjoyable.
- **Personal, one-way presentation:** The same auditory tools are available to the presenter as for reading out, but it is essential to what extent the presenter helps the listener to process the information by providing visual stimuli and tuning in. There are effective and less effective presenters.
- **Personal, interactive presentation:** It could be called a conversation, a debate or a discussion. This is the most effective form of communication. Verbalization is aided by visual stimuli, facial expressions, gestures and auditory stimuli, voice inflection, intonation, segmentation and attunement.

We can say that a teacher is considered competent and prepared in the context of frontal teaching if he/she practises the personal, interactive form of the above linguistic expressions and is also an effective speaker.

In terms of the effectiveness of recording information, after the student reads it, about 10 percent of the information is recorded, if someone tells them the same data, the ratio rises to 20 percent, using diagrams may increase the amount of knowledge acquired to 30 percent, and if the presentation of information is

supported by moving images, audiovisuals, up to 50 percent can be achieved (Kendrovics 2021, 167).

The question is whether this is the maximum efficiency that can be achieved, or whether there are educational strategies that can improve the ratio. A further question is whether there are other disadvantages to the presentation-based teaching strategy, or more precisely, whether there are other teaching strategies that may prove to be more effective and have other advantages.

It is worth noting the fact that when researchers classify teaching strategies (Knausz 2001, 61), it often looks like there is the presentation strategy and then there are the others: these are the alternative strategies. "Alternative strategies are called into being by criticisms of presentation strategies, as alternatives to the presentation strategy" (Virág 2013, 74). The main critical elements can be summarized as follows (Knausz 2001, 58):

- During a presentation, it is not clear what learning processes are taking place in each learner. Feedback is scarce and there is especially little information on the progress of individual learners, making it difficult to adapt teaching to learners' performance.
- During a presentation, learners are atomized, unable to take advantage of the opportunity to learn from each other's schemas. They do not even learn the basic elements of cooperation, so education is built on competition.
- During a presentation, there is a good chance that learners acquire "foreign knowledge": knowledge that is impossible to experience, comprehend and, therefore, in the long run, to remember.
- Presentation artificially separates theoretical knowledge from practical application, so it does not prepare students for life. This is related to the fact that the elements of knowledge that are interrelated in practice are fragmented into subjects and thus are represented in the learner's mind in different—impenetrable—schemas.
- The presentation paradigm is culturally aggressive: it promotes a dominant culture and ignores the cultural diversity of learners.
- Presentation focuses on the outcome of knowledge acquisition, on the ready-made, recorded knowledge, and ignores the process of knowledge acquisition, which will be increasingly important in the future.

Project pedagogy based on constructivist learning theory

While the learning theory of behaviourism is not concerned with what happens between the receipt of a stimulus and the formulation of a response, the learning theory of constructivism investigates precisely that: how knowledge is formed. "Constructivism sees learning not as a transfer of knowledge but as a construction of knowledge, i.e., as an active process. The most important step in this process is that the learner interprets new information using his or her existing, systematic knowledge. According to the constructivist approach, the learner not only absorbs knowledge, but also creates it on the basis of his or her prior knowledge. [...] In this process, new knowledge is not simply added to our existing knowledge system in an additive or cumulative manner, as previous approaches emphasized, but is based on a complex interplay of elements of the cognitive system at any given moment and is constantly transformed in structure" (Virág 2013, 44).

Let us revisit László's case, mentioned in my introduction. He, being inexperienced in the world of light constructions, presumably only knew about the role of light in filmmaking that it is the light that makes the characters visible. He listened attentively and took down what I said about *upstage* and *downstage* lighting constructions. I assume that he remembered it or looked at his notes later at home. It is obvious that the lighting schemes in question contradict his prior knowledge since he had not thought at all that lighting could have an aesthetic function. I think two possibilities are likely. In one, he memorises what he has heard, and in the process fails to link the new knowledge to the existing knowledge system because of the contradiction, so the new knowledge element hovers in a vacuum (until it is forgotten), with no anchoring taking place. The other possibility is that anchoring does occur, i.e., the new knowledge item gets linked to the existing system of knowledge items, but the contradiction is only resolved if László falsifies the new knowledge item: for example, in the rush and stress of the entrance exam, having already positioned the subject, put down the camera and determined the direction of the subject's gaze, he confuses which lighting construct portrays the face more plastically, and therefore more aesthetically. (My assumption is that in the case of László, it was the former.)

The above example illustrates how a presentation-based teaching strategy based on behaviourist learning theory *fails to work*.

The objective based on a constructivist approach is to make sure that—while the new element of knowledge is in contradiction with the existing system of knowledge elements (the only function of lighting is to make the actor visible vs lighting also has an aesthetic function)—"processing and anchoring" take place, i.e., the new element of knowledge is put in place in the existing system of knowledge elements and the new information does not change. The internal system undergoes a change, but this change is already a radical transformation, because then we accept some completely new theory or explanation" (Nahalka 2002, 59). This *conceptual shift* is a type of learning that involves the greatest change. A further condition for its operability is that "the new explanatory system must not be inferior to the old one, i.e., it must be able to explain what the old one did": the fact that lighting has an aesthetic function does not exclude the fact that lighting also serves to make the character visible. Indeed, it does not exclude it.

Project pedagogy or project teaching is a learning-teaching strategy in which students select or accept a problem or a topic and process it—in the case of cinematographers' training, in a group collaboration. The final outcome is always a presentable intellectual or material work or product.

To understand clearly what project pedagogy is, we also need to understand precisely what a project is, including the main characteristics of what we call a "project." We come closer to understanding this if a project is contrasted with work done on an ongoing basis: a project is a periodic activity, not a regularly repeated one with similar content. Every project has a definable start and end. We start a project because we want to create something that has not existed before, at least in terms of a significant part of its elements. A project is therefore unique, it may be similar to previous activities, but it is never identical to them. In contrast, non-project-based workflows are continuous and repetitive, the work is performed on a continuous basis, there is no fixed end to it, the people doing the work often repeat previous operations, and the result of the work is often the same as previously. (In the case of higher education, for instance, this might mean that the main goal of the workflows is to ensure the continuity of the institution. In other words, this type of education does not focus on the efficiency of education, but on the continuity of work.)

As a combined result of being active and involved in a project, as well as the analysis and evaluation of the project, the processing and anchoring take place, i.e., new knowledge is constructed in the mind of the student, and the

new knowledge element is put in place in the system of existing knowledge elements, thus creating the said conceptual shift.

In order to implement a project, implementation stages must be defined. These are (see Knausz 2001):

- **Choice of topics:** A project is an activity that students do willingly and of their own accord. This should already apply to the choice of the topic, but the teacher can influence the choice of the topic according to certain criteria, for example by requiring it to be linked to the curriculum (but, of course, it may be independent of it). There may also be a compromise solution, whereby the teacher decides on the theme and the method of implementation, but the sub-themes are discussed jointly.
- **Setting the objectives:** The specificity of a project in education is that it has a dual objective—in addition to the final product, a learning process must take place, and in the case of a project, both objectives must be reflected upon, while at the same time the scope of the lessons to be learned must be defined.

Evaluation: After the final product is completed and presented, the evaluation

- is carried out, which can only be a text-based evaluation, as grading is an unknown concept in project teaching. In addition to the dual objective (product and learning process), the evaluation should also cover a third aspect, the internal functioning of the group (e.g., how conflicts were handled). The evaluation stage also provides an opportunity to explore the theoretical background of the phenomena, regularities and observations that emerge during the implementation of the project. This is the time when there is a chance that, while the new elements of knowledge may contradict the system of knowledge elements existing before the project was implemented, processing and anchoring can take place, i.e., the new knowledge elements, supported by the theoretical background, can be placed in the system of existing knowledge elements, i.e., new knowledge is constructed.

Project pedagogy builds on the practice of the anticipation-action-feedback-prediction cycle, so the implementation of the above project is repeated, while the product to be created and the lesson to be learned is always different, at least in part, always capable of offering something new.

Let us see to what extent and in what way the criticisms of the presentation-based teaching strategy, which have been summarised in the previously listed points, affect the practice of project pedagogy.

- Since the main focus of the project is not on the activity of the teacher but on that of the students, it is easy to monitor the learning processes of each student and to summarise information on the progress of each student, making it easier to adapt teaching to students' performance.
- During the project, students are not atomised, as they are reliant on cooperation due to the group activity. They are able to learn from each other's schemas. Cooperative learning may gain ground, whereby students learn the basic elements of cooperation, and education is not based on competition but on cooperation.
- By implementing the project, there is a good chance that the students will not acquire "foreign knowledge," but new knowledge that can be properly experienced, comprehended and remembered in the long term.
- Project-based learning does not artificially separate theoretical knowledge from practical application, so it prepares students for life. The knowledge elements that belong together in practice are not fragmented into subjects.
- In the implementation of the project, it is possible to take into account or even build on the cultural diversity of the students.
- Project-based learning does not only focus on the result of knowledge acquisition, on the ready-made, recorded knowledge, and thus does not ignore the process of knowledge acquisition.

The link between project pedagogy and cooperative learning

"In guided learning, three basic learning situations are distinguished. In individualised learning, the learner works through the personalised material at an individual pace. Competitive learning is the most common (and most comfortable) learning situation, but competition between learners may have a detrimental effect on the development of group spirit. Cooperative learning is based on cooperation and leads to a strengthening of group spirit. [...] People are by nature goal-driven and achieve their goals through competition or cooperation, but collaboration is much more effective in achieving them." (Virág, 2013, 115).

This is especially important in the light of the fact that filmmaking would be impossible without the cooperation of many people. On the one hand,

creating a production requires a wide range of skills, and this necessitates the involvement of a staff of people with expertise in different fields: no one person can acquire this much knowledge in sufficient depth (just think of the skills of an actor and a production manager). On the other hand, even if one could, he or she would not have the capacity to cope: a large number of operations have to be carried out in a given time, for example, think of the work of a director and a cinematographer: there is a great overlap between the two professions, it happens that an artist is a cinematographer in one production and a director in another, but it is much rarer that he or she does both jobs in the same film.

Cinematography practice and project-based pedagogy

Cinematography practice in the old days and at present

Cinematography practice is an essential part of training cinematographers. As Lajos Koltai recalls from his college years,[4] "It was all based on this little studio exercise, trying to create moods and pretending that it was part of a film."[5]

Géza Radványi and György Illés were commissioned by Ferenc Hont[6] to start building up the film training. They were convinced that practice should be an essential part of the education: "That's how *Somewhere in Europe* [1947] was produced. In fact I made it because I had discussed with the people in charge that I could not teach film in any other way, only if we undertook this great adventure together with all the students, and they could understand all the details of how a film is 'made' in the middle of making a specific film…" (Szabó 1995, 198), remembers Géza Radványi. And from the very beginning, cinematographers were engaged in cinematography practice with due regularity; in Koltai's time, for example, six hours were devoted to it twice a week.

Exam films have also played a significant role, but they have a different impact on the professional development of student cinematographers, as exam films

4 Lajos Koltai was admitted to the College of Theatre and Film Arts in 1965, in István Pásztor's class, and graduated in 1970. György Illés took over the class from the third year due to István Pásztor's health problems.

5 Based on oral communication by Lajos Koltai, January 4, 2023.

6 Between 1945 and 1949 he served as the Director General of the College of Theatre and Film Arts.

are made less frequently, usually one or two a year, and the nature and size of the assignment is slightly different, and feedback is less frequent.

Continuing to focus on cinematography practice, we will examine how this element of the training and its implementation fulfils its function from the perspective of project pedagogy, and more specifically how it meets the requirements set by project pedagogy.

Academic literature draws attention to the central role of experience in the practice of project pedagogy: the individual has an active influence on his or her environment, and gains knowledge and experience from it. We have an impact on the object of our activity, which in turn has an impact on us. The closer the relationship between the individual and the object of his or her activity, the more useful the experience. It is essential to see that the process of acquiring habits and cognition is largely dependent on the individual and cannot be fully planned. Insofar as education is concerned, it is clear that the influence of the teacher on the process of cognition is limited: he or she will not be able to predict exactly what lessons the student will have gained after completing the project (Bake 2005/2006, 42). This might be what Kálmán Nádasdy had in mind, according to a Szinetár anecdote: "One day a student came to his class and brought a tape recorder—a novelty at the time—to record what the professor was going to say. Then Nádasdy said, 'I'll go outside if this tape recorder is here.' 'But Professor, why don't you let us record it?' 'If it is not recorded, then what you memorize from it and pass on will be told in such a way that something is always added and taken away from it, and so it will remain contemporary' (Szinetár and Kozák, 203, 35).

Spontaneity and openness are therefore essential features of project pedagogy, but vague or unclear objectives are a serious threat to the project. Thus, while it may seem contradictory to what has been stated above, it is essential to define a structure along which to plan the implementation of the project (Bake 2005/2006, 62).

I will use a seven-stage model, originally developed for language teaching, but with some modifications it can be applied to our field as well (Frey 2002, 158). I have taken step 7 out of the process because, in the case of cinematography practice, it coincides with step 5. While I take up the remaining six points, I will report on the relevant concrete and specific elements of cinematography practice used both in the past and at present, and my suggestions for the future. In addition, I will illustrate the specific actions to be taken for each point, using

a case study example of a cinematography practice, so that the work process is clear and easy to follow.

The six-stage model of the project method and cinematography practice

1. Launching the project

Every project starts from a specific idea, task, specific motivation, intention or purpose. Students have to collect their suggestions. They are asked to structure and organise the material.

At the same time, the instructor must take the lead: he or she must accurately assess the knowledge and skills of the students, because under-planned tasks offer as little to learn as over-ambitious ones. In addition, exercises must fit into the structure of education spanning several semesters. This has not always worked flawlessly, and the assignments have not always been designed with sufficient planning and consciousness: "Papi[7] came in: what do you want to do? Then you told him what you wanted to do. And then he said, well, if you want something so badly, you have to do it!"[8] How much the instructor takes control of the project is to some degree up to him or her, but he or she must have some leeway. In my opinion and in my experience, cinematography practice works well if the task is defined at least to the extent of a key word.

Example: Shoot a 2-minute scene without dialogue using two cameras.

2. A review of the initiated project within a pre-agreed framework

We draw up the project outline, on which the rest of the project is based. All participants must be engaged in the work. To ensure a clear and transparent process, we need to create rules. It may be useful, for example, to set deadlines and to expect proper argumentation.

The latter are not alien to the filmmaking process. Deadlines set out what we have to do, and filmmaking is governed by rules well known in the industry. Instructors are responsible for constantly instilling and enforcing them.

7 György Illés' nickname in the profession was Papi.

8 Based on oral communication by Lajos Koltai, January 4, 2023.

The former, engaging participants in the work, is a more complex task.

Traditionally, cinematography practice is done in a rotation of the crew made up of members of the cinematography class: one of them is the director of photography, there is a *focus puller*, a chief lighting technician (gaffer), a *key grip*, etc. This usually works well and only breaks down when the class is too small. This is rare, but there are examples. István Pásztor's, later György Illés's, cinematography class (1965–1969) only had two students, Lajos Koltai and Péter Jankura. Somehow, the crew still had to be made up: "And yes! I do remember Dezső and his classmates[9] being there regularly. They were interested in cinematography and lighting and all that, so they joined. But that was just so you could make a crew for the exercise."[10]

However, it is not just the functionality of the crew that is at stake.

The presence of students of directing is a question that goes beyond cinematography practice. Whether or not student directors participated in cinematography practice varied from period to period. Even when there was a partner directing class, cooperation was not assured. (Of course, it was not possible when there was no partner class.)[11] The aim of cinematography practice is not only to activate and develop all cognitive functions (perception, memory, imagination, thinking) and it does not only focus on action, i.e., the practical application of what has been learnt, but also on the analysis and solution of problems, problem situations, and the teaching of social attitudes and behaviours (communication, cooperation, ability to compromise, dealing with emotional states, etc.). Working with a director as a partner, a client and sometimes a rival is a communicative situation that is about collaboration, compromise and the difficulties of processing emotional states.

A further argument for the presence of a director is that in our experience—fortunately, many cinematography teachers shared this opinion—the student cinematographer is the director, who, in the absence of another creative intention, tends to assign himself a task in which he or she can work with the

9 Koltai is referring to his colleagues in the directing class: Sándor Albert, Tamás Farkas, Gyula Gazdag, Katalin Keller, Dezső Magyar, István Sípos, and Rezső Szörény.

10 Based on oral communication by Lajos Koltai, January 4, 2023.

11 Not often, but it happens: the BA Cameraman class led by Tibor Máthé, which graduated in 2013, had to shoot both cinematography practice exercises and exam films without directors. It is no coincidence that two of the students later graduated with an MA in directing.

tools he or she has already practised, which are familiar and effective, and therefore the lesson to be learnt can be very limited.

In other words, without a director, there is no film, or even cinematography practice.

I am convinced that it is not just a question of having a directing class alongside a cinematography class, but also that the cinematography practice cannot fulfil its purpose without a student director.

The other question is how to make a student director understand and accept that the cinematography practice is primarily for the student cinematographer, and that the director cannot "steal the show". So, on the one hand, we are dealing with an etude or a study that has a special role to play in the education of a cinematographer, and on the other hand, this is a work of film art, however small, with a meaning, a mechanism of action, a mood, etc. How to make a student director understand that he or she cannot design an etude in which the professional lessons of cinematography are pushed into the background? How to avoid the director spending time waiting for the character to cry, but leaving no time for lighting the next shot? At this point, the instructor plays a crucial role again.

The prioritisation method can be helpful. This involves the director drawing up a list of priorities at each scene level. He or she decides for each scene whether the focus should be on the acting, the spectacle of the action, the presentation of a stunning location, etc. This is one of the most important and useful operations to be carried out by the director. There is no such thing as a shoot that proceeds according to the paper form as one always has to adapt to what is happening, constantly adjusting plans, always making compromises. And that is when it is good to have a fixed point in our lives, the priority of the scene, because that will guide us in recognising a workable compromise.

Again, this is an operation that directors need to learn anyway. In the case of a cinematography exercise, the instructor can say: precedence is given to the mood of the lighting, so it is at the top of the list of priorities.

Drawing up the project outline, on which the rest of the project will be based, is done together with the student director. At this stage, the instructor again has an important role to play: he or she must explain where the starting point (the keyword) comes from and what its professional and artistic background is. The starting point, so to speak, must be embedded in the context of the film industry, the art of film.

Example: In recent years, there has been a clear tendency to shoot not only action scenes with multiple cameras, but also scenes requiring a limited apparatus, perhaps even chamber scenes or so-called *dialogue scenes*. One reason is the producer: he or she wants to ensure that there is still a chance for things to be decided on the editing table. The other reason is the director: he or she wants to make sure that there is still a chance for things to be decided on the editing table. To do that, you have to produce the cuts, two cameras shoot twice as many cuts. There is no doubt that there are other benefits to multi-camera shooting: it significantly reduces *continuity* problems.

3. Developing the project (project plan)

At this phase, the project takes its final shape. Participants develop their ideas about the possible outcome, discuss their respective roles, draw up plans, clarify the basic conditions and allocate tasks. At the end of the process, the draft project should be in a written form. In order to clarify the decisions, the participation of the students is essential, and in this process essential social cooperation experiences are gained.

Irrespective of being aware of it or not, the cinematographer in fact constantly makes promises that he or she then has to keep. Although this may sound prosaic, the success of keeping promises is a crucial part of the cinematographer's professional and creative competence. On the one hand, he or she makes aesthetic, creative promises to the director (and sometimes to the producer): promises a mood, effect, meaning, taste, style, visual concept, genre, etc. On the other hand, he or she makes practical agreements with the producer, the director, the production manager, the first assistant and often other crew members: he or she sets the necessary technical, material and time frames. The production ultimately holds him to account for these promises.

Stage 3, project development, is the time for promises. The first professional requirement is careful planning. In this phase, the necessary research for the design must be done, the documentation to represent the plan must be prepared, and the plan must be shared and fine-tuned with the director and other crew members.

Careful planning has not always been a requirement in education—or in many cases in industry. Lajos Koltai, for instance, recalls that in his college days, students were hardly ever asked to do this.[12] Although György Illés comments

12 Based on oral communication by Lajos Koltai, January 4, 2023.

on this somewhat differently in an interview, his wording ultimately supports Koltai's recollections: "If you do a photography workshop, you have to write it down in two sentences in advance. […] In fact, there were classes where I required that the lighting be also drawn in advance."[13] This means that there were classes of which George Illés did not require this.

Example: There is a need for a visual reference, a literary and technical script, a cut list, a *storyboard*, a *mise-en-scène* layout, a lighting plan and a production plan, all agreed with and accepted by the director.

A prerequisite for the implementation of cinematography practise is to have a functioning crew. The members of the crew are selected from among the students and at this stage the roles of the crew are allocated. Cinematography practice simulates a real-life shooting environment, as a consequence of which students learn the roles, see and practice what tasks and responsibilities are associated with each job. Here, the role of the instructor is to explain the basics.

4. Implementation of the project

The project participants have already made their decisions and are working to implement them. Teamwork plays a strong role in the development of the project. Almost complete autonomy and activity without top-down management is a key element of the project. (The inability to cooperate is often blamed as a reason for potential project failure.)

While the students are filming the cinematography exercise, a certain psychological pressure is created—a must for filming. This can be explained by the tight timeframe, the fever of filmmaking, the desire to complete and the inevitable, usually minor, personal conflicts that arise. Students in this situation typically use the knowledge they have already acquired and make limited use of new concepts. One thing is certain: they are not yet able to draw lessons, or only imprecisely. The focus is on the successful implementation of the task and cooperation.

Even the smallest crew is made up of several members, many of whom are creative people with plenty of individual artistic ambition. No wonder, then, that one of the most difficult tasks is to coordinate the work of the staff and also to align the different ideas and teach the students how to do this.

13 *Interview with György Illés*, 1994, by Károly Csala. Online access: https://www.youtube.com/watch?v=nZMHSkdNI8A (last visited: October 3, 2024).

Example: Micromanagement is one of the most common problems. "Bob leans on the lectern, crossing one leg over the other, one arm akimbo. He looks out over the heads of the students, arching an eyebrow thoughtfully. An actor's reaction to a script saturated with that kind of detail is to toss it in the trash, thinking, 'They don't want an actor, they want a puppet'," warns Robert McKee (N. d., 383), and advises the writer: "Eliminate all camera and editing notations. In the same way actors ignore behavioral description, directors laugh at RACK FOCUS TO, PAN TO, TIGHT TWO SHOT ON, and all other efforts to direct the film from the page. If you write TRACK ON, does the reader see a film flowing through his imagination? No. He now sees a film being made. Delete CUT TO, SMASH CUT TO, LAP DISSOLVE TO, and other transitions. The reader assumes that all changes of angle are done on a cut" (ibid., 397).

William C. Martell warns of a similar danger in his book on dialogue writing (Martell 2011, 105): Overly controlling – and sometimes the writer is micro-managing the script and wants everything to be exactly as they envision it, without the slightest difference. "This line must be delivered exactly like this!" […] The writer doesn't want to leave any room for interpretation or change. Film is a collaborative medium and everyone involved is some form of artist. Not only will they want to interpret your screenplay, you will want them to add their artistic skills to yours." Of course, the tendency to micromanage is not unique to the writer: the director sometimes "pre-acts" to big-name actors, showing them how to sit down at the table or hold their hands. But sometimes he or she also likes to tell the cinematographer the exact location of the camera, and I once heard a director specify the iris! At the same time, the cinematographer is not exempt from such things: he or she keeps jumping up from the camera, telling the chief lighting technician where the light cables should run, down to the millimetre. This marks the death of collaboration.

5. Checkpoints

The participants' activities should be interrupted for a moment at times. These checkpoints are intended to avoid aimless and hasty action, as well as to help us make comments, report back to each other on intermediate results, and provide an opportunity for reconsideration and appropriate responses.

The cinematography exercise must be completed, even if it is a little incomplete, even if it is not exactly as planned, even if it is not perfectly successful. The instruc-

tor also has a key role in this. He or she must rescue the project from collapsing. When the instructor sees that the work is seriously stuck, he or she can articulate the nature of the complication and give the students advice—usually practical—to help them through the deadlock.

Example: A common problem for beginner filmmakers is the lack of an efficient rehearsal method, which often leads to a considerable loss of time. In such cases, the instructor has to step in and guide the crew members on the right methods. Although lessons are only identified at the next stage, there are some professional tricks that can only be taught effectively at the moment the problem arises.

6. Completion of the project

The end result of a project is not necessarily a tangible product. The activity itself can be the goal of the project. In any case, the completion of the project should be made clear. An educational project should always end with a recognisable outcome: this may be a product or enriching experience.

The filmed cinematography exercise must be edited, sound must be added, it must be colour-graded and mixed. The emphasis is on screening and the subsequent analysis.

As I mentioned earlier, the textual evaluation is carried out after the final product has been produced and presented. Project pedagogy builds on the practice of the anticipation-action-feedback-prediction cycle, so evaluation is a key component as feedback and, without it, lessons are not learnt. In addition to the dual objective (product and learning process), the evaluation should also address a third aspect: the internal functioning of the group (e.g., how conflicts were handled).

The evaluation phase also provides an opportunity to explore the theoretical background of the phenomena, regularities and observations that emerge during the implementation of the project.

It is a common phenomenon in art education that students are reluctant to see creation as an activity that always has a professional content. "Another prejudice maintains that verbal analysis will paralyse intuitive creation and comprehension. Again there is a core of truth. The history of the past and the experience of the present provide many examples of how destructive the formulas and recipes can be. But are we to conclude that in the arts one power of the

mind must be suspended so another may function? Is it not true that disturbances occur precisely when any one mental faculty operates at the expense of the others? The delicate balance of all our mental powers—the only thing that allows us to live a full life and work well—is disrupted not only when the intellect overpowers intuition, but also when the intuition crowds out thoughts. Groping in the dark is no more fruitful than blind obedience to rules" (Arnheim 1979, 11). We are probably not dealing with a new phenomenon, as Béla Balázs stated as early as 1958 (Balázs 1984, 12), "...the existence of every vocation presupposes its own theory. Practice is like the science of the miracle doctor. A quack does not know theory, his recipes are dictated by experience, and he is often more skilful at curing than a trained doctor. But only if he is dealing with a disease he has already treated. He is clueless when confronted with a new task. The essence of experience is that it applies only to cases already familiar to him and is of no use in solving a new problem. For experimentation, however, the film is a rather expensive undertaking. Nor is experimentation in technique haphazard. Theory first sets the goal, calculates the possibilities, and only paves the way to the goal. You know better than anyone that film is a young art which presents you with a new challenge every day, where no previous experience helps you. The director is forced to become aware of the principles he or she has unconsciously followed until now, and this is how his purposeful, creative artistic method evolves."

Example: The almost universally prevailing approach to cinematographic lighting in the world today is known as *source lighting*. The idea is to imagine a diegetic light source behind each light that appears, so that the lighting gives the illusion of naturalneyy, as if it were shot in a given light, without artificial lights. This initiates a process of augmentation in the viewer's mind: from the properties of the light represented (its quantity, placement, direction, quality and colour), combined with everyday experience, the viewer builds a model of the light source (e.g., the sun shining into the room).

While previously only light sources that appear in the image (reading lamps, neon signs, TV sets, etc.) were called *diegetic light sources,* with the rise of source lighting, the light sources imagined by the viewer's augmentations actually become such since they are part of the story.

Since these lights are almost never produced with the same light source as imagined (we do not bring the sun into the studio), artificially produced light will never be the same as the original. The question is what the viewer notices

of the deception, in other words, what becomes his or her belief and what does not. The test of source lighting consists of whether the viewer incorporates the diegetic light source into the model of the world outside the image that the cinematographer intended.

And success depends not only on everyday and professional experience, but also on theoretical knowledge of the whole process of vision.

Conclusion

In its current form, cinematography practice has many features in common with the educational strategy of project pedagogy, but in order to enjoy the full benefits of this strategy, there is still work to be done. It feels as if we have stopped halfway through. It is necessary to study, master, and apply all the elements, protocols and syntaxes of the strategy that have been developed and therefore already exist. This allows the student to enjoy the greater efficiency of project pedagogy, to benefit from being the focus of education, to experience and practice the benefits and joy of cooperative working, and to acquire competitive knowledge that is open to cultural diversity, that does not separate theory from practice, and thus prepares them for life.

Some of the teachers would be open to this, but even among them there is a prevailing opinion that project pedagogy can only be relevant for practical subjects, while theoretical education should stick to the presentation-based strategy based on the learning theory of behaviourism.

My opinion is different. In my view—and hopefully the above article is sufficient proof of this—it is precisely about how practical and theoretical education can be operated within a single strategy, in a common system. It is necessary to align practice with theoretical classes in accordance with the established syntax of the educational process and the relevant subject matter. This is no small task, and the teaching of theoretical subjects needs to be reconsidered, for example, the routine of a chronological approach to historical subjects (film history, art history, etc.). This task, which requires dedication and enormous organisational work, is still ahead of us. We have to convince colleagues, the university's management, education funding… It is not impossible that a law will have to be changed (remember that project pedagogy does not use the tools of grading, it only provides feedback through textual, mostly oral, assessment), and the list goes on.

It will be difficult, but I think it will be worth it.

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