

ANALYSIS – A FUNDAMENTAL TOOL FOR EDUCATION IN THE CREATION OF MULTIMEDIA PRODUCTS

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Abstract: The study examines analysis as a learning tool, both in general and specifically within the work of sound specialists in the creation of multimedia products. Tracing completed processes and accomplished audiovisual forms serves as a guide for practicing sound engineers and students across various multimedia disciplines alike. It builds a reflex for identifying and articulating basic principles of action in certain situations, understanding concepts, techniques, and stylistics, recognizing the directorial artistic approach, appreciating the uniqueness of audio design solutions, and conducting comparisons and analyses when similarities are observed across different examples. The analytical process enables observers to self-evaluate their work, identify important details for their future work, detect stereotypes, and acquire a reflex to pay attention to details that influence the overall sound picture. In the study, two main groups of transitions and processes were traced: first, from the perspective of analysis as a tool for understanding by users, and then, in the application of the insights formed through specialists’ work experience.

Keywords: analysis, analyzing, learning, multimedia, sound design, sound engineer, audiovisual, observation, imagination, experience, technical-practical, psychological, creative

There is no bad or good idea. Rather, we are talking about a pure, clear, suitable, and appropriate idea and its sound solution, as well as a concept for its construction. Given the constant movement and internal dynamics, this, accordingly, leads to internal changes in the execution itself. There are no eternal and unshakable rules, just as there are no irreplaceable ideas. This creative world is very flexible, adaptive, and even amorphous.

Hans Zimmer

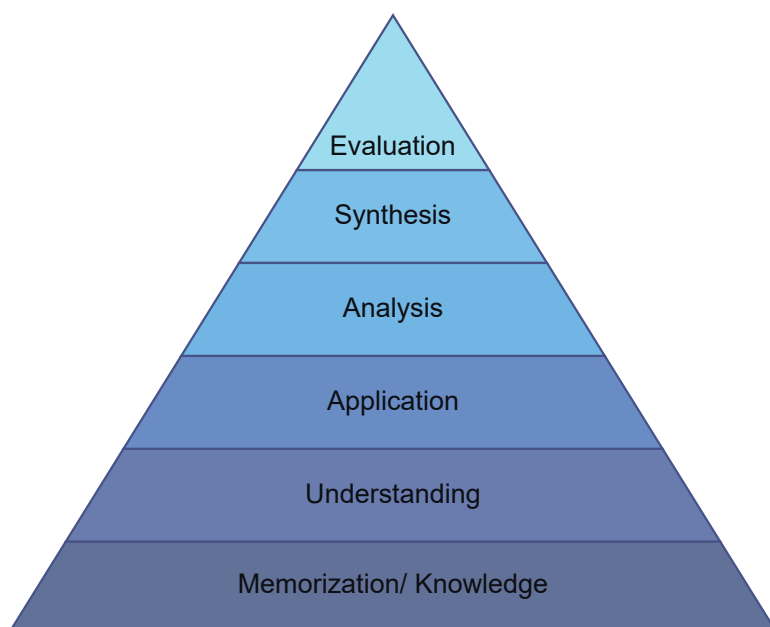
Does analysis substitute training? No. Analysis is a tried and true way of gaining experience and, per se, a significant part of learning. Through analysis, primary information is acquired – the “what” and the “how”. The process of analysis shapes and enriches our understanding of the “when” and the “why” as well. Critical feedback for the performer is achieved through analysis, not only from the performer but, more importantly, from the audience. The accessibility and applicability of this activity result from the fact that analysis, in all its forms, essentially involves observing and comprehending previously employed solutions, mentally constructing, structuring, and classifying them into an individual database. This database, over time, integrates into the overall experience and serves as a pattern for interpretation.

In this sense, analysis is an immutable and indispensable part of the educational process in general, and specifically in the training of multimedia specialists, as it brings informational potential and a set of practically applied and verified concepts. A natural path toward mastery often involves imitation and copying. Even in the animal kingdom, the young ones try to mimic their parents in the most primitive actions regarding movements and communication, and only later do they learn to hunt and survive independently. This life cycle is an illustrative example of functioning in general, implying a fundamental regularity and a logical and relevant principle applicable to every professional direction and field of specialized implementation.

In summary, the developmental process typically begins with mechanical imitation, followed by the refinement of said imitation (imitation with attention, thought, finding meaning in action, and refraction through personal experience), and only after accumulating skills in creating original solutions to creative tasks, does the opportunity for individual interpretation and the emergence of independence, leading to the freedom of individual style and recognition, finally arise. The process of analysis specifically facilitates the transition between stages, ensuring progression, as it catalyzes activity and is an identifier of the logic, sequence, and meaning of actions.

Analysis is at the top of the pyramid in the hierarchy of cognitive skills in Bloom's taxonomy. It is a means for establishing ideas that have

already been defined. Accordingly, after each analysis, we acquire a personal stockpile; it is a level corresponding to a significant ability to distinguish between facts and presumptions. Therefore, after each analysis, practical insights are gained for making judgments and applying familiar patterns to new situations. It also involves evaluating the suitability of various approaches, providing opportunities for defining, establishing relationships, drawing conclusions, and making judgments using inductive and deductive reasoning. Consequently, each analysis enriches the foundation for developing a system of concepts and understanding.

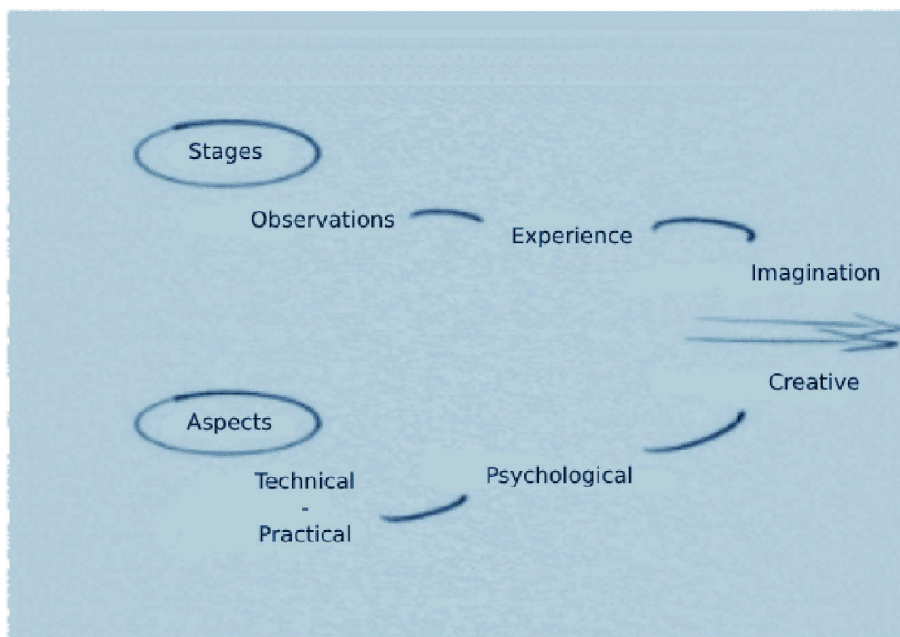


In the context of specific reasoning in the sphere of creating multimedia products, analysis is not only a learning tool but also a present stage in the professional's work, albeit in other aspects, e.g., in interpreting a task and tracking all details regarding the expected work, including materials, deadlines, and requirements in ongoing projects, as well as monitoring the reproduction of various audiovisual systems in regards to their impact on informed and uninformed users of completed products. Another relevant aspect regarding the subject discussed in this paper is the external influence of an artistic product on the potential development of students and/or accomplished multimedia experts.

When the analysis meets the condition of the expected result, allowing subsequent application of the examined data as factual we can ascertain the

presence of a criterion or usefulness of the analysis. I.e, the analysis itself can be unnecessary in cases where there are no created inert conceptual depots or where there are no lasting impressions or subsequent adaptations of structural data left in the memory of the analyzing specialist. Preconditions for the validity of the analysis *from the perspective of the product's impact* are principles such as:

- Perception – when as many observers as possible similarly perceive the object;
- Operability – when the perceived requires as little resistance as possible in its application;
- Simplicity – when, regardless of the subjects' experience, the object is perceived well and fully by as many observers as possible;
- Descriptiveness – the clarity and quantity of noticed details – accordingly – probable and increasing emotional responses;
- Comparison – analogies with other samples;
- Aesthetic effect – the phenomenon that describes how higher-quality products are perceived more easily;
- Attractiveness – the tendency for attractive people to be perceived as more intelligent, competent, moral, and social;
- Composition; archetypes and models – valid for both the product itself and for the subjective perception, depending on the type of psyche of the analyzer, etc
- There are also preconditions *from the perspective of the perceiver's experience*:
- Segmentation – a technique for combining elements and expressive means carrying information into other structures that are easier to perceive;
- The tendency to seek balance, harmony, and order;
- Comparisons and associations;
- Consistency and the pursuit of generalization;
- The possibility for expressive concreteness – both in perception and in application; s
- Similarities and analogies;
- Depth of processing – a memory phenomenon where carefully analyzed information is recalled and brought out much more easily than the rest, superficially or not at all analyzed information, etc.
- This paper examines the process of analysis and the processes in the course of creating artistic products, from two perspectives.



I propose structuring the transition from the starting point of zero to the end point of achieving the goal into three main and sequential stages:

- Observation (proactive, yet still latent) – accumulating experience;
- Experience – impressions, reserves – developing imagination;
- Imagination – solving creative tasks.

Concerning applicability, I also view the process from three aspects:

- Technical-practical;
- Psychological;
- Creative.

In these classifications, it is noteworthy that the intermediate characteristics are the key to unlocking the potential of the process, as they involve complex structures with a certain volume of common qualities, but also with numerous individual, subjective, yet always multiplex intrapersonal processes and phenomena. As one progresses through these moments, a significant, albeit undefined number of events occur: relationships are formed, various categories of psychological phenomena emerge, and ultimately – depending on numerous subjective factors – positive outcomes are achieved. What is common to all conditions is that despite the complicity and diversity, it can be summarized without hesitation that analysis is a fundamental tool in education in general,

as it is an aggregate of biological, psychological, motivational, and – ergo – operating characteristics.

Analysis is a cognitive process that does not presuppose stress. Learning occurs naturally and, depending on the chosen examples for analysis, education can also bring satisfaction, spark interest, and provoke attention and curiosity.

I am examining an example within the realm of sound design:

While listening (I deliberately use the term ‘listening’, not ‘watching’) to a particular excerpt from a film (this is most relevant in animation, as in this genre we discuss the creation of sound concepts for non-existent entities to add depth and bring to life images that are inherently unreal, or at least anthropomorphically-rendered existing objects), through analysis and the listener’s ability to deconstruct multimedia elements and structural components, the process of construction becomes largely evident. This shift in focus from consumption to creation highlights the potential of any product as a resource for inspiring new creative endeavors. The information about the processes of creating sound images and the artistic and technical teams’ conceptual solutions encourages and provokes the imagination in a constructive direction which is often boldly experimental and reaches beyond what is rational, obvious, ordinary, expected, and typical. The imagination works more decisively because the analytical process has repeatedly followed the path of action that others have already established, tracked the utilized solutions, summarized the technologies, and realized the possible combinations and prospective alternatives; it more boldly crosses boundaries, solves problems, proposes variants, i.e., a sense of artistic freedom whirls the creative potential and expands the spectrum of personal technical-artistic reserves.

Specific example: “Elemental” by Peter Sohn, 2023; Foley artists Shelley Roden and Heikki Kossi and Foley mixer Scott Curtis at Skywalker Sound – the construction of the glass wall.

A perfectly logical sound image matches the vision. This in itself is a sufficient attestation of a job well done. As I mentioned, here we’re not talking about recorded real events and people; here we speak of image building from an idea, curve, and color, and creating an abstract and unreal, yet tangible and spirited world, which – to have contents and to be perceived as real – it requires the corresponding acoustic half.

When listened to in detail, this excerpt reveals the possibility of recording an indefinite number of layers (simultaneously sounding individual sounds and/or noises, building a complete and richer acoustic image of the specific audio structure), among which there are various types of flame sounds, as well as low-frequency liquid sounds, influential in shaping the wall; there

are combinations and layers of slightly scraping and metallic sounds as the glass is drawn up by Lumna and the transformations of the glass mass, with individual soundtracks likely cross-fading according to the requirements of the scene to achieve a continuous, logical sound. The excerpt also features additional frequencies for volume – low for breadth, size, weight, and impressiveness, and, correspondingly, high for sharpness, specificity, and brilliance. The auditory landscape is enriched by the ringing of crystal pieces and “magical” dust once the wall has been completed. Additionally, the sound of pouring out a glass container filled with liquid when the wave reaches the wall, combined with the frequency-filtered noise of flowing water when the characters look at the water through the glass, further enhances the excerpt. In this brief scene lasting only a few seconds, there is a multiton liquid from one side and a voluminous mass of heavy amorphous solution from the other; the combination of these sounds evokes a sense of crystallization and hardening.

Apart from the different sounds and their combinations, the transition through the states of the material, and the purely emotional effect this scene is intended to have on the viewers are also considered. Days of work likely went into this scene with the closing of the sluice, which is less than a minute long.

Having many channels with different sound qualities is necessary for achieving a unique sound with a specific character and recognizability. The creation of every sound element in each production requires a complex set of resources:

- Materials – recordings from a sound library, specially generated effects, or sounds recorded to fit the needs of the scene (foley);
- Conceptual development – establishing the purpose of the given sound or sounds in terms of realism, transition, engagement, emotion, etc.;
- Interaction, balance, intensity;
- Technical tools for post-production intervention and editing – changing the pitch, tempo, dynamics, strength, and timbre, as well as sound transformations such as frequency changes for “presence”, location, environment, distribution in space, mass, and character of the landscape, and several other subtleties, determined by the course and requirements of the story.

In this example, every sound that matters is heard without requiring the listener to delve deeply. What is distinguishable is detailed enough to form a map of the main sounds and sound spectra.

Although I used an example from the most bounteous genre for the imagination – animation – I must emphasize that often in animation, it is imperative to approach the creation of an auditory landscape thoughtfully,

with understanding and reliance on realism, due to the need to create a subconscious connection between the non-existent characters and a certain image. Correspondingly, due to its realistic nature and the weight implied by the nature of its images, live-action cinema allows for the inclusion of even more abstract and artificially generated sounds, as its adaptability compensates for any discrepancies and what is perceived as “truth” is not specifically the most accurate sound, but the one which feels right and is linked to the image in an indivisible, indefinable, and indestructible whole. Unreal or artificially generated designer sounds in a realistic setting are permissible when the goal is to achieve an emotional effect through psychoacoustic methods.

Of course, the above-described complexes almost entirely exclude extremes, regardless of the genre application, but this is where the professional experience, aesthetic sense, and taste of experts come into play. Every idea should be applied according to the requirements and objectives of the project, and not become an end in itself.

In the reverse process, we have the characteristic sequence of directorial work:

In the production of a video project (of any purpose) that communicates its message effectively, directorial analysis is a very responsible creative (but also organizational) stage of the entire process, which should not be overlooked. The director's perspective requires examining the frame, focusing on more than one aspect simultaneously: space and its framing, composition (static and in motion), color, mise-en-scène, props, etc. Every decision related to the frame leads to and is driven by a specific psychological impact and hidden subtext, affecting how the viewer will perceive the scene and in this sense, it has the highest priority for the audio-visual product.

(Karagyzova, 2023: 141).

This approach is taken when working on a specific artistic concept and creating a new product. Starting from the director's vision, the implementation at every technical and creative level follows defined steps, but perhaps with even greater scope, because it is through execution and experimentation that ideas are born.

Besides tracking the processes in a finished product or planning an upcoming one, analysis also involves breaking the whole into segments, details, and elements. This ability to deconstruct during observation is a fundamental building block in the construction of a real creative task. Here, “the general matter is divided into its constituent parts, to facilitate their examination separately as independent structural units. This is the place where gaps and errors in the process of reasoning are discovered.” (Karagyzova, 2020: 51).

The ability to see/hear beyond the apparent is a large part of the mastery in achieving (hyper) realism. The specialists' attention to detail and relationship to art as consumers and connoisseurs are fundamental requirements for quality and impactful construction and creation. In other words, you cannot be a good sound designer if you are not a passionate admirer of music, nature, and aesthetics; if you do not understand the technical principles and do not master the basics and laws of working with specialized and specific tools. Only then can one consider going beyond the limits, implementing unconventional solutions, and being courageously creative. Only then can one choose a playful approach to working with an experimental character. Only then do we speak of a level of mastery of the means of expression that turns the technical person into a creator, as any crossing of boundaries and frames, when done with understanding and taste, is a potential revolution. Of course, breaking the rules does not always mean a result with a "wow" effect. Sometimes the effect might be "wow," but the result isn't necessarily positive.

The essence of the analytical process lies in the act of doing, emphasizing the importance of its effectiveness. The Confucian adage "tell me and I will forget, show me and I may remember, involve me and I will understand" is indicative and has been tested over centuries. The process of analysis is precisely about involvement. An analysis is an investigation from within; doing, albeit passively; showing, teaching, developing. At its core, analysis requires observation.

OBSERVATION

Observation is a primary method of gathering information. It represents the gradual and continuous addition of data to an already existing set of knowledge and relies on assertions based on sensory experience. Observation is purposeful, planned, and organized. This specific case concerns conscious observation; moreover, a type of observation that suggests the presence of strong motivation linked to a particular interest and expertise, and is a prerequisite for enhanced concentration on the observed object, process, phenomenon, or product. In such cases, the processes occur without the stressful element of obligation, and respectively, without a certain degree of internal resistance when acquiring knowledge.

Observation involves deliberate perception and holds remarkable importance, requiring active attention and prior planning, preparation, etc. (Levi, 1990: 135).

Our ability to adapt is due to our multitude of instincts, which Darwin calls the "instinct for the acquisition of art". For me, the word "art" in this definition is indicative. Steven Pinker says that the innate adaptability of

humans is an adjustment, not a truth (Pinker, 2011). In this context, the uniqueness of each person (just like the fingerprints of each individual) determines their perceptions, “important” life events, phenomena, and givens; as Marin Goleminov said, “everyone perceives music and the images that inhabit this field in their own way.” Similarly, the process of observation, like any other process, is strictly individual, i.e., everyone pays attention to and is impressed by different things, depending on a multitude of complex circumstances. The goal of observational analysis (and the subsequent summarization of the results from this stage) is not only to focus attention on a given audio-visual work, to delve into depth and to look for cause-and-effect relationships for these decisions, or to formulate emotional reactions and rational conclusions but also – at a higher, empirical level – to investigate to what extent the director was able to guide billions of individualities in a single direction and to trace exactly how this was achieved. The latter stimulates the expansion of the problem, and the emergence of new perspectives, questions, judgments, interpretations, and conclusions.

The moment of defragmentation and examination of each segment from all possible sides, conceived by every observer in the group, can, of course, easily lead to deviation, even to the loss of the idea of the main goal. Here, the main responsibility of the leader (the teacher) is to create an environment that stimulates free, open conversations and the sharing of opinions and ideas sometimes seemingly chaotic and unrelated. The teacher should also examine as many elements as possible in the most detailed way, sift through useful ideas, as well as obvious and hidden means and techniques, and summarize – all of this maintained within the channel of the specific work and its unique characteristics.

Analysis requires critical thinking from students as well. Comparing patterns and solutions leads to new paths, interpretations, ideas, and concepts. The students’ observation, discussion, and focus on the perceived highlights of a given multimedia product provide the teacher with feedback on specific individual qualities, improve communication, and assist in choosing (individual) approaches and methods that satisfy the learners’ needs.

After a certain period of practice, one reaches the point where, based on accumulated impressions, knowledge, and observations, it becomes possible to interpret in such a way that new paths toward achieving analytical goals are found. It is precisely at the boundary between the technical and creative aspects that the greatest challenge arises, igniting an interest in the specific discipline – you simultaneously have enough information to allow for experimentation, as well as enough curiosity to delve deeper and deeper into the specifics, or to find a more general perspective or different angles of viewing a given object. In a single word, this is experience.

EXPERIENCE

Experience is intrinsically linked to practice, regardless of the field of implementation. The most convertible acquired condition guarantees a level of expertise that, even at its least satisfactory levels, surpasses unapplied information and knowledge. Experience is the only objective individual “possession” ensuring realization. In the widely used colloquial phrase: “fake it until you make it”, experience is the stage that begins after the first achievement of the goal and does not end, but escalates into mastery, ease, and naturalness. Experience is the active interaction between a person and their environment. It represents each individual's reaction, relative to their preparation and availability of coping tools, to specific sensibilities, motivation, and activity; as a consequence of experience, this complex information is summarized and stored as memory.

Making mistakes when gaining experience is one of the most valuable cornerstones. “Experience is never a failure, because it always comes to teach us something.” This thought by Thomas A. Edison supports the reasoning that mistakes are not only useful but also necessary. During their studies, students should be encouraged to make mistakes, in the sense that – regardless of the level of their independent tasks during self-preparation – learners go through invaluable moments that create opportunities for discussion, debate, and building upon in general meetings and during practical exercises. It is precisely (if not only) through making mistakes that one learns most rapidly, effectively, and durably what not to do and why (which is also an analytical process). Even if it's a separate issue, it's not uncommon for a new idea or “effect” to emerge precisely through a mistake.

If the experience is in a field that brings inspiration and emotional satisfaction to the individual, then it is enriched and transformed into creativity. The variability becomes an artistic interpretation, and the solutions to practical problems become creative improvisations. In other words, experience is transformed into creation with the help of internal motivation that fuels the individual with emotional responses that are usually positive, as they are the result of inspiration, purpose, action, and satisfaction. Notably, creativity is at the top of Maslow's hierarchy.

One of the principles of learning states that “emotions are directly connected to learning.” If the learner experiences impatience and joy from engaging with the information, this itself is a serious bid for positive spiral development. As stated, the process of analysis provides conditions for stress-free learning. Experience solidifies and enhances the positive emotions associated with refinement from one side, and on the other, it stimulates and enriches the imagination. Directly connected, these two mutually supporting elements of professional realization form potential depots for

innovations, whose filling is directly related to the personal characteristics of each individual and the conditions around them.

Impressions and experiences form data reserves, based on which mental images and ideas can be created, not limited by the current sensory impressions. These factors form the human imagination, fed by impressions of experiences, yet not strictly limited by them, capable of reprocessing and organizing events and ideas in a new way. Besides being inherent to humans and essential for survival, this adaptability is of primary importance in solving creative tasks and seeking unconventional paths in one or another sphere of human development.

IMAGINATION

Memory models serve as a starting point for the imagination. Thanks to its functions (cognitive, predictive, protective, self-developmental, and related to understanding and memories), the potential of a person's imagination progressively expands according to individual characteristics.

According to its definition, imagination is a cognitive mental process in which reality is reflected in the mind through new, unusual, and even impossible images, ideas, or concepts; in the subconscious, original images related to the cognitive system, experience, way of thinking, daily routine, a person's fantasy, their current state, and inspiration, etc., are formed. It plays an active role in planning or when one finds themselves in unfamiliar situations. Imagination is the ability of a person to transform knowledge into the creation of new ideas and concepts.

It is directly connected to a person's response to unintended situations due to the nature of the process – improvisational and interpretative.

On the other hand, when we use a deliberate situation with a specific distribution in an educational environment, the most valuable reaction from the students is for them to transform it into an unintended one by their initiative, a typical approach in early education, but entirely applicable at every educational stage and level. In those moments the motivation, attitude, activity, and thinking are different, resulting in a difference in assimilation, understanding, memorization, and stability.

According to Einstein, imagination is more powerful than knowledge, and this is entirely justified, as the former implies the ability to combine and interpret memory archives into qualitatively new images. The power of imagination is a subjective characteristic, directly correlating with the way of thinking, experience, impressions, and temperament.

Gaston Bachelard investigates and asserts that imagination is the core of the psyche. He examines the creative function of imagination, which he defines as the “function of the surreal” (encompassing the potential for

creativity, interpretations, and the creation of images), contrasting it with the “function of the real” (limited to imitating perceived reality). In the analysis, both functions are important. The function of the real is analogous to the analysis itself – it is precisely the process of copying and creating variations of what is perceived, seen, and felt, within the means of personal capabilities at this stage of experience. The function of the surreal can be perceived as an impact and result of the analysis – when the personality builds upon the perceived and interprets it with its tools according to its world of impressions, concepts, experience, and the possibility to transcend them. Fantasy requires self-discipline in the pursuit of generating “novelties.” As absurd as it sounds, when a person turns any activity into a daily routine, their skills develop in its direction. At some point, the efforts transform into acquired qualities. This is the principle of repetition. That is, when a person consistently develops their fantasy, it starts to operate at a higher level and generates more and more ideas. Even if more than 90% of these ideas are not good enough to be developed, the remaining ones will have the corresponding potential, with some being successfully realized and applied.

Fantasy is a serious, practical, and useful tool both when undertaking creative activities and dealing with ordinary and problematic situations. The other curve, passing through the remaining three aspects of analysis – technical, psychological, and creative, follows the same direction and ultimately leads to a merge into the general information flow of creation and consumption, communication, and data exchange. This provokes higher mental processes, correspondingly aiming at a specific satisfaction when programming the circumstances according to the expectations of the research method.

The technical-practical aspect involves a combination of applied experience and specific technical knowledge.

Here, the boundary between technical literacy regarding the specific tools of a given discipline and the capacity for solving creative tasks, refracted through the psychological processing of individual internal processes, is created and then fused.

Before we proceed to the construction of a multimedia product, we need to ask ourselves several questions. Their answers are beneficial both in forthcoming analyses and in the creation of an audiovisual work:

- Regarding the technological aspect:
 - What are we working on (form, genre, concept)?
 - What will we work with (technical resources)?
 - Where will we work (acoustic environment)?
 - What is the monitoring (related to the purpose of the product – where it will be used)?
 - How will we work (tools and artistic resources)?

- Regarding the content:
 - What do we want to say (to assist script and directorial decisions)?
 - To whom do we want to say it (the audience, the stylistic characteristics and peculiarities of the period – techniques, technological “quotes” and emulations of the era)?
 - How will we say it (the concept, the idea as a whole, the continuity of the story, the means of expression)?

Accordingly, a finished product is subject to deconstruction along this and other scales. Even only the answers to these questions, serving as reference points, would shape an analysis productive enough for impressions and conclusions based on detailed observations, therefore promising a set of potential resources for future experimentation. In this context, the fundamental knowledge about the stages of work in creating a multimedia product not only guides what to look for but also adds additional depth and understanding of the structure to the analysis, and respectively, of the methods of impact in the construction of the story.

It is well-known that a film is “born” twice more in addition to the script level – once at the location where content is mentally generated, and once more during editing when the content is transformed to create something new. Parallel to this runs a multi-stage work process on the sound. The film’s sound adds intensity, organicity, and precision, “speaking” about its attitude. For example, when the character’s personality is built through sound, that speaks not only about the character but also about the director’s style; when dynamics are sought in the story, they are conveyed through the rhythm and melody of the soundtrack; when emotion needs to be amplified, that is achieved mostly through details – both through sounds and noises and through silence and pauses. Every multimedia element has a complex set of characteristics, therefore the design is not only a sum of (appropriate) sounds but a complete picture with its characteristic signature, carrying a message precisely through the overall implication, though built from fragmented sound segments.

“Attention to detail is the only difference between a satisfactory and a great performance” (Sir Richard Branson). Attention to every detail is one of the most essential and distinguishing features of the technical aspect. It is the degree of attention to detail (at every stage of work, in every discipline, in every field) that differentiates the mediocre from the ordinary, the ordinary from the good, the good from the impactful, and the impactful from the stunning. It is precisely the attitude towards detail that can give us instant, subconscious information about the audiovisual product – whether it is high quality or not. These opportunities for microanalysis and subconscious analysis are also a product of the attitude toward details by the creators

and the consumer experience among consumers. Due to mutual interest, satisfaction on both sides makes the relationships symbiotic, a relationship further examined in the following stage.

PSYCHOLOGICAL ASPECT

Analysis enables the deconstruction of the whole into psychological modules, allowing for the observation of their impact from the perspective of human behavior. Knowing these mechanisms, the audiovisual specialist can provoke the desired reaction and emotion in the viewer or listener. Then, the most important aspect – the story being told – is further emphasized, and the dramaturgical highlights create lasting emotional connections and leave deep impressions. Some strong factors of psychological activation are repetition and misophonia. Emotional associations with moods (sadness – church, crying; fear – wind, crows, scream; joy, satisfaction, tranquility – birds, cat, laughter, etc.) are clichés that can be applied in the field of psychological impacts, and analyzing them is among the primary resources for every designer. Frequencies outside the so-called audible spectrum – ultra (above 20 kHz) and infra (below 20 Hz) – are perceived on a subconscious level; the physiological impact of frequencies below 120 Hz, besides affecting internal organs, creates the impression of something big. Whether this implication will provoke fear or a positive surprise depends on the author's decisions; large amplitudes at a fast pace carry a vastly different weight than a slow fade, long silence, and sudden sharp strong accents. In other words, alternating and switching between different provocations activates varied emotional responses, hyperrealism suggests multitude and volume, sound effects and the intertwining of noises direct and trigger potential reactions, and the already mentioned silence is one of the most expansive topics and multifaceted phenomena for analysis and cogitation.

The following examples are excerpts from everyday life, not just a creative toolkit in audio-video creation. Imagine a theatrical performance with three characters, building their images sequentially, in three individual episodes. First, we have a confident woman presenting a stable disposition that can be trusted. The point of the segment comes across clearly, and the message reaches the audience. The actress has done her job successfully. The second artist steps forward and fully immerses herself in her role. Again, the point of the segment comes across clearly, and the message reaches the audience. This actress has also done her job successfully. It's time for the last heroine in the story. In this part of the performance, what we have previously discussed occurs – the actress has prepared and developed the material masterfully, enriching the character through expert management of the nuance and details. This image devastates you, and the character remains

with you after tearing you apart emotionally. It is impactful, memorable, and enduring. This character causes the previous two images to almost instantly fade and get lost against the backdrop of the volcano of emotions that erupted into a high mountain. Whether we can elevate a multimedia product into a work of artistic value, or it remains a correctly executed technical task, depends on whether, when, and how emotional connections and responses are born. And this last portrayal we might call Art.

Creativity is the highest stage of working on a project, requiring prior knowledge of realism and the mechanics of the process, as well as a capacity to picture unconventional solutions, a different level of thinking, combinatorial abilities, lateral connections, abstract ideas, and presentation skills. To create means to be excited. By provoking the human emotional flexibility through the discovery of events with a strong impact on the individual, one inevitably comes to question what made them feel this way; why they feel the way they feel; could they make someone else feel this way, and how; what is common and what is different in each case; why...

CREATIVE ASPECT – THE FINAL AND MOST TARGETED STAGE.

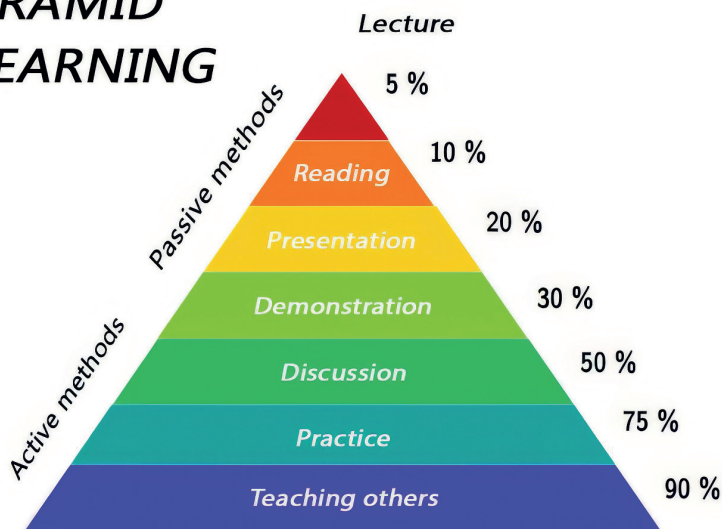
At this stage, accumulated experiences materialize into interpretive variations of specific scenarios.

“Here, ‘the assessment based on artistic taste..., intuitive experience based on the unconscious sifting through a vast database of the beautiful, on one hand, and the correct structures of form, on the other...’ speaks to ‘... manifestation of aesthetic preferences, i.e. subjectivism in the best sense of the word’ (Karagyozev, 2021: 9, 12) and to another, higher level of relationship and creation, in general.”

The interaction between experience and imagination serves as a starting point for freedom in experimentation, but it is a kind of experimentation that involves daring to cross the boundaries of the known, allowing individual aesthetics to embody this leap into a new approach, a new model, a new tool of art.

Combining the stages of observation, repetition, and imagination makes analytical activities and skills some of the most fundamental abilities in regard to learning. Moreover, analysis is a direct activity because it provides education through actions – the most straightforward type of learning. Active learning is engaging and durable, i.e., it transfers what is learned directly into long-term memory. Perception has specific parameters such as constancy, selectivity, meaningfulness, generality, and apperception, which depend on the object of analysis and its depth.

PYRAMID OF LEARNING



Observation/Practice – Experience/Psychology – Imagination/Creativity

When considered sequentially, according to the structure set at the beginning, this summary shows the possibility for these steps to cross over, run in parallel, or overlap at times. Tracking and structuring stages aim more at forming an internal order rather than a strict sequence for clarity from a methodological standpoint, not so much for creative regularity since being a designer (as well as any specialist beyond the frame of correct execution) is mostly a matter of many impressions and bold imagination.

Most questions (analysis) mean more answers, experience, solutions, and tools for interpreting specific situations.

Self-awareness becomes a tool, serving as a starting point when communicating creative concepts and one's own experience (as personal and isolated as it may be, it is still a product of the human cognitive system and the complex of basic and general reactions to one stimulus or another). Logically, it can be applied in an effort to emotionally impact groups of people. Therefore, a personal search for sources of strong emotional excitement leads to self-knowledge, which is a peculiar tool for solving creative tasks and achieving their set goals. The most direct path to understanding and a large part of knowledge relies on analysis. There are three main perceptual types. The first includes people inclined to generalize and lacking significant attention to detail. These are people with synthetic perceptions. The second type also referred to as analytical, is characterized by strong concentration and special attention to detail, to all details, to as many details as possible. The third type is a combination of the previous two. In them, the overall

“picture” and the meaning as a whole, as well as its specific characteristics, are simultaneously constructed.

For some people, perception is accompanied by strong emotionality; for this reason, the mental process is perceived as an experience triggered by the observed object or phenomenon.

Moreover, the act of creation itself is a constructive and refining process: “Every human creation that leads to qualitative transformations and original distinctiveness compared to the previous ones in art or knowledge is a process of emotional growth” (Karatanasov, 2022: 8).

It is in this sense and in these cases that perception serves as a source of analytical events with stability both over time and in the specialist’s toolkit.

This emotional depth enriches the analytical process, providing a more nuanced understanding of the observed phenomena. The emotional component highlights aspects that might remain unnoticed in a purely rational analysis, enabling a more comprehensive and profound exploration. This integration of emotion and analysis fosters a deeper engagement with the material, encouraging innovative approaches and creative solutions. The specialist’s toolkit thus becomes enriched with techniques that leverage emotional responses to enhance the analytical process, making it a powerful tool for generating insights and understanding complex phenomena.

When it’s clear what needs to be monitored, analysis is an invaluable tool in gaining experience, and from simply observing an entertainment multimedia example, watching or listening with understanding becomes an educational resource. The reflex to work with mental models (the phenomenon where people understand and interact with systems and environments based on mental interpretations developed through experience, in other words – forming assumed images in the mind without necessarily verifying these representations), prompts the observer to structure information almost involuntarily and to store data in their memory, regardless of which part of it. This paper explores mental models because even if direct observation is available, and not the creation of images according to our cognitive system, it is precisely these impressions that are transformed into reserves of examples for future application, available for transformations of any type and boundary. With this understanding of the functioning of processes and their potential, attention should be paid to their refinement and acquiring techniques in practicing a given professional direction. This next step – technical improvement when working with analyzed material – largely involves experiments and the pursuit of the most literal repetition of an already created solution and copying not only each element as accurately as possible but also the whole. In this next step, the most basic processes for individual development occur again – imitation and emulation. This

shows that a cycle of knowledge (analysis) is completed here, which serves as the beginning of the next step (application). The application (copying implemented solutions, approaches, and methods) aims, on the one hand, to test the analysis made through reverse experiments, and on the other, an intensive transition to real production activity. In this way, and with such exercises, the analysis unnoticeably creates:

- Practical accumulations, technical skills, and precision;
- A reflex for attitude and reaction to production from an aesthetic-creative standpoint.

Repetition as a technical activity primarily develops dexterity and mechanical memory. Regarding sound design, attempts to achieve the most literal reproduction of a given product and interpretative variations of the given theme bring about another type of expertise, specifically the technique of handling means of expression and the courage and passion for experimenting. Thus, repetition and exercises create habits, and accordingly, improvement becomes smooth and natural, as long as one practices regularly. I consider this as the final stage of analysis, its technical application through interpretative repetitions as an exercise. This is also the moment when lecture materials, internet audio-visual resources, meetings with specialists, conversations with experts, the presentation of examples, and the conduction of practical and seminar activities, conferences, discussions, etc., combine and modify their functions to apply the aforementioned information and transform it into skills. The analysis and its application carry the most substantive and consistent concentration of experience, ready to be developed and enriched in new and diverse ways.

Analysis can provide feedback for the work of every audio designer. For example, questioning what they have done “in a certain way” (according to a chosen example), and what they would have done “in that way”, carries an internal self-assessment of the level of thinking and implementation; what they see as an original, bold idea carries information about the extent to which they would accept or challenge a given idea, to what extent they would be useful with ideas in this team and with this concept. What surprises and inspires multimedia specialists provides insight into their level of lateral thinking and application skills or lack thereof.

Analysis has another valuable quality: self-assessment. For most of our lives, we are subjected to some form of evaluation. Especially in the early stages of self-awareness and during childhood, external evaluation (abundant positive feedback, critical feedback delivered with care regarding its presentation) is of significant importance for the healthy and balanced development of the personality, allowing an individual to gain confidence and discover their passions more easily. As we grow and build autonomy, we search for understanding, and

it is then that the period of forming “important” friendships occurs, as friends account for the individual’s external evaluation which is accepted without reservations and regardless of its nature, without the typical resistance of the ego. Gradually, through experience and interaction, adolescents build a more realistic, yet subjective assessment of themselves, and self-evaluation becomes part of shaping the individual with a relatively critical magnitude. In the context of analysis and specifically self-analysis, self-assessment can remain an internal and hidden process, and in this sense, the analytical process allows for complete internal honesty. This, in turn, facilitates the precise assessment of positive and negative traits and a relatively more objective and complete self-perception. Self-assessment and self-analysis aid in improving opportunities in the search for methods, solutions, and principles. With knowledge of the principles, the amount of accessible techniques can multiply quickly.

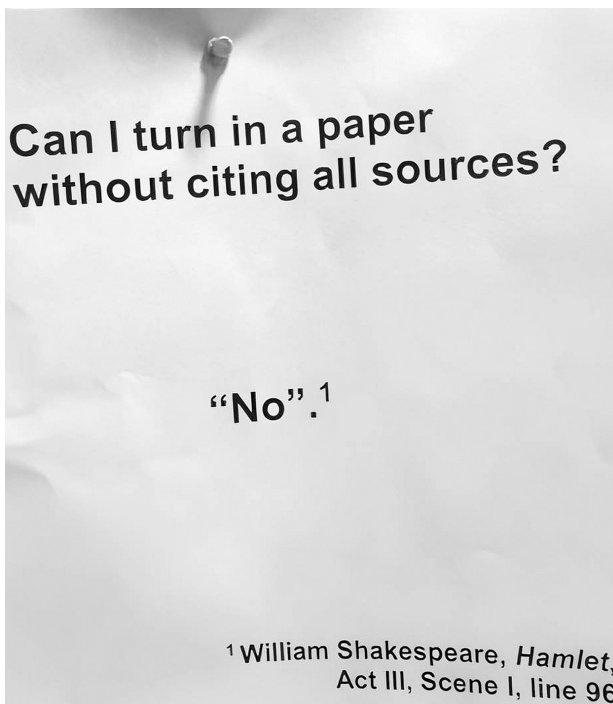
Analysis plays a key role in various aspects of both personal and professional development. It serves as a fundamental process through which critical thinking is improved, allowing people to approach problems with more nuanced and effective problem-solving thinking. Here are some of the main benefits and conclusions of the analytical process:

- It develops critical thinking: Engaging in analysis teaches people to question assumptions, evaluate evidence, and consider different viewpoints, which is a fundamental skill for dealing with complex problems and making informed decisions;
- It improves problem-solving skills: Analysis breaks down complex problems into manageable elements, facilitating decision-making. Through the systematic examination of each component, it is possible to integrate more effective strategies for coping with challenges;
- It enhances teamwork and communication skills: Collaborative analysis requires clear communication and the ability to work effectively with others. It encourages an environment where different ideas are shared, critically evaluated, and synthesized, leading to more comprehensive solutions and outcomes;
- It provides ready resources for creative tasks: Analytical processes often lead to the accumulation of knowledge and strategies that can be easily applied to creative endeavors, facilitating innovation and originality;
- It creates a foundation for skills in educational, professional, and everyday contexts: The skills developed through analysis are not limited to the academic environment at its various levels but are equally valuable in daily life, improving a person’s ability to deal with various challenges and discover much more opportunities;
- It improves adaptability: Engaging in analysis promotes thinking

that is open to change and new information, making people more flexible and able to adapt to new situations or information;

- It serves as a multifaceted strategy: Analysis is indispensable both in a general and specific sense, i.e., in a person's everyday life and their work as an expert, offering a universal tool that supports decision-making, learning, and problem-solving in various areas of life;
- It has technical, artistic, and aesthetic value: Analysis is not just a logical or technical tool; it is directly related to the evaluation and creation of art and design, where understanding of form, function, and beauty are crucial;
- It facilitates self-knowledge, provokes self-assessment, and encourages self-improvement: Through analysis, people gain insight into their thoughts, behavior, and abilities, promoting reflective practice that supports continuous personal development and self-improvement.

In summary, analysis is not only a primary teaching tool in the realm of multimedia product creation, but a comprehensive strategy that promotes intellectual, emotional, and professional growth as well, providing the necessary tools for effectively navigating our functionally diverse daily lives in the complexity and speed of the modern world.



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Maria Radeva's main scope of interest is the impact of the sound on the human, especially how the frequencies affect human emotions and states. She is in the industry about 25 years and has been a music theory and piano teacher, choir and ensemble singer. At the moment mainly works as audio producer and VO educator.

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