# TEACHING MUSIC VISUALLY – TRANSCENDENCE AND FLOW IN VISUALLY AUGMENTED MUSIC PEDAGOGY: TOWARDS AN EDUCATIONAL PRACTICE USING KANDINSKY'S AND CSIKSZENTMIHALYI'S CONCEPTS OF MINDFULNESS AS A WAY OF TEACHING AND EXPERIENCING MUSIC TO ADOLESCENTS

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**ABSTRACT**

The core study of this PhD research is a practical application in teaching Visually Augmented Music Pedagogy (VAMP). VAMP is my pedagogical approach explored in this research project, which combines Kandinsky's (1914) belief of mindfulness as a divine state when experienced holistically (auditory and visually), along with Csikszentmihalyi's (1990:49-70) nine dimensions of Flow in an activity where the balance between challenge and skill is achieved. The visual aspect has been injected into teaching sessions in various ways, such as via the use of visual displays of images of music (either derived from a video projector, the teacher or the students) along with the visual classroom experience itself by using dance, movement, and various classroom activities. By adjusting the given curriculum, introducing VAMP in the music classroom enhanced the teaching experience by putting into practice the research's interpretation of Kandinsky's and Csikszentmihalyi's concepts of mindfulness.

The classroom activities were divided into 'Control Groups' and the 'VAMP-infused' groups, and at the end of each teaching session (that might take up to 3 lessons), the students were asked to score the experience based on Csikszentmihalyi's list of dimensions in an EduFlow seven-point Likert scale questionnaire (Heutte et al. 2014:32 and Mawas and Heutte 2019:497). The data results support the hypothesis that when Teaching Music Visually, the students demonstrate a Flow state of optimal experience. Future research aims to investigate the relationship between teachers and students in facilitating Flow, as well as ways to adjust existing curricula of various subjects and modalities (such as special education), based on the VAMP model.

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# CHAPTER 1 – RESEARCH AIMS AND CONTEXTS

## INTRODUCTION

Educating adolescents embodies both the peak moments and challenges of my role as a music teacher. I have consistently viewed my position as an educator as both demanding and fulfilling, as the realm of education is inherently unpredictable, offering no assurance of uniform results. Transmitting knowledge in a classroom setting of an average of twenty-five adolescents on a subject that is a mandatory curriculum in the general education system also adds to the difficulty around student engagement in the learning process. Engagement, motivation, and class participation are aspects of teaching that can be challenging as students display technological advantages that teachers sometimes have difficulty catching up on. Teaching Generation Z students, who grew up fully immersed in the digital age with smartphones and social media as integral parts of their lives, requires teachers, educational systems, and curriculums to adjust to meet their academic, sociological, and psychological needs.

Throughout my nearly three-decade career as a music teacher, I have constantly developed new teaching approaches to meet the needs of my students. However, the recent years were the most challenging ones as I felt more was needed to gain my students' attention and make them enjoy learning in a classroom setting. Initially, I attributed this challenge of engagement to the mobile devices that all the students felt uneasy to depart from during my lessons. Therefore, I started using applications in the form of virtual musical keyboards as a way of incorporating those devices into my classes, as all the students owned such devices. However, this was not enough, as I felt that departing from their mobile devices was only the tip of the iceberg.

## 1.1 RESEARCH BACKGROUND

The initial idea of the research started by finding new ways of getting my students' attention by inserting visual aspects into my teaching. Gaining and maintaining my students' attention

throughout the lessons was vital as music is a subject that can be pleasant but, at the same time, intimidating in the general school curriculum. The research was conducted in a secondary inner-city school in Cyprus. However, the aim was not to change the curriculum of Cyprus' education system but rather to enhance it with some minor additions and activities to create visual in-classroom experiences.

The start of the research involved finding easily accessible ways of incorporating the visual element as a novelty from the 'traditional' way of teaching. Cyprus Educational System follows European Laws, and the curriculum is aligned with the UNESCO (2015, 2016) global education framework (Cyprus Ministry of Education 2017). The music curriculum is designed based on local and global music traditions from ancient times until now. The curriculum requires students of all levels to understand and read the simple G-clef notation with accidentals, perform basic melodies or accompaniments on a piano keyboard, sing, and learn the essential skills for simple composition, with varying difficulty levels depending on the student's age group. Furthermore, extracurricular activities such as participation in a school choir/orchestral or wind band are voluntary and the students get extra credits as an independent school activity marked as «ΔΔΚ» (Δημιουργικότητα- Δράση- Κοινωνική Προσφορά), which translates into "Creativity – Action - Social Offer". Students participating in extracurricular activities such as music, theatre, literature, or charity events are awarded this «ΔΔΚ» as an additional mark. The music lessons, however, are mandatory from elementary school (6-11) until the gymnasium level (12-14) and up to the age of 15 lyceum level (15-18).

Individual music instrument tuition in Cyprus is very common. However, the government does not fund this except in the specialist Music Schools[1]. Many students, however, are happy to pay for private afternoon lessons for individual musical instrument intuition in after-school music schools. Each class in the general schooling system combines confident musical instrument students with complete beginners. The overall theory of music curriculum in the level of Gymnasium (12-14) that this research is based on is that the educators assume that the students have minimal background knowledge, and we start with the basics as a revision to get all the students at the same level.

[1] The specialist Music Schools take 25 students annually per level (six in total) via written and performance exams. There are a total of five schools, each located in one of the five cities of Cyprus. These schools follow a general curriculum in the morning, similar to regular schools, but with slight modifications. Specialist tuition for personal musical instruments continues in the afternoon, while general schools end at 1:35 p.m.

## 1.2 RESEARCH AIMS AND CONTEXTS

Throughout my career as a music teacher, I noticed that some music-loving students who would wear headphones and constantly listen to music would lose interest during music lessons; since music is such an integral part of their everyday life, in the classroom, they lack the enthusiasm. When asked why they lose their concentration in the music lessons, they will often blame it on the curriculum, notation learning, old music traditions and probably on how the lessons were delivered; the list goes on and on. At times, I took it personally, thinking that it must be me, unable to make them focus on something I already knew they loved. Especially in the last decade, I have realised that the dependence on their mobile devices was somewhat to blame for their lack of in-classroom and constant attention.

My initial goal was to grab their attention. Since they seemed to be psychologically dependent on their mobile devices, I incorporated portable piano keyboards. Simply allowing students to use their mobile devices as virtual keyboards during musical performances did not fully engage them in the learning process. More was needed to maintain their focus.

When researching the connecting thread between art, visual, and psychological stages of engagement, I came across the work and writings of both Wassily Kandinsky (1866 – 1944) and Mihaly Csikszentmihalyi (1934 – 2021). The research within this PhD study thus blends the two theories proposed from the writings of Kandinsky (1914) as *Transcendence* and Csikszentmihalyi (1990) as *Flow* by finding the connecting thread which is proposed in this research as the 'mindful' state of experiencing art holistically. The bringing together of these two conceptual frameworks, mindfulness in education and creating a safe and enjoyable space for students to learn, aims to find a new solution to the problems I have listed above as an educator.

## 1.3 NEW METHOD - TEACHING MUSIC VISUALLY

The research proposes a new method of teaching music that incorporates visual elements to enhance learning. This approach combines mindfulness inspired by Kandinsky (1914) and

Csikszentmihalyi (1990) while addressing the visual stimuli that students are accustomed to using portable devices. Therefore, the method proposed as Visually Augment Music Pedagogy (VAMP) aims to capture the adolescent's attention in a classroom setting by creating a mindful way of learning.

The method is tested in real-time classroom experience with the use of questionnaires that are designed to identify optimal experiences in education. The classes are divided into the VAMP-infused groups and the Control groups. The questionnaire results from both groups are evaluated along with the teacher’s notes and discuss whether, by Teaching Music Visually, the students can focus and learn in a mindful teaching environment.

There is a lot of literature on teaching styles and their impact on the classroom. One of the notable works is Highet's (1951) publication delves into the important aspects of effective teaching and provides a timeless guide on the principles and practices that can help elevate teaching artistry. The aim is to inspire and engage students in their pursuit of knowledge. Dunn and Dunn's (1977) theory emphasises that students have their own unique learning styles. The theory provides practical advice on how educators can customise their teaching methods to suit individual learning preferences. Ambrose et al. (2010) offer insights into the science of learning and how instructors can apply evidence-based principles to enhance their teaching method. Saphier et al. (2008) offer practical strategies for effective teaching, which include classroom management, engaging students, and creating a conducive learning environment. All of these methods can be employed in this project to form a new model for teaching music visually.

Teaching Music Visually via the VAMP educational model, contributes to knowledge by presenting ways of adding visual stimuli to a given curriculum to create a mindful learning environment in a classroom setting. This can be achieved through the use of various visual techniques such as moving or static images, drawings, kinetics, and dances, which create a holistic experience of Kandinsky's *Transcendence* (1914) and balance skill and challenge as described by Csikszentmihalyi’s (1990) *Flow*. The research suggests that mindfulness practices can help adolescent students develop skills for personal growth beyond the classroom. Furthermore, the VAMP educational model has the potential to be expanded into other subjects and modalities, including special education.

## 1.4 CHAPTER OUTLINES

The upcoming chapters delve deeper into the concept of mindfulness with a discussion of the two theories that support the research, explore the theoretical background of the research, and explain the methodological approaches and mechanics required to achieve it.

Chapter Two is the literature discussion that underpins the foundations of the research regarding adolescent development and the concepts of mindfulness, according to Kandinsky and Csikszentmihalyi. The existing literature will inform the critical framework of the hypothesis - that by enhancing the visual experience in teaching music by making it more holistic (Kandinsky 1914, 1923) and by balancing the skills and the challenge (Csikszentmihalyi 1984, 1990, 2014), a positive experience is created in a classroom setting where students are happy to learn.

Chapter Three focuses on education and its core values, such as personal growth and development skills. Various educational modalities are discussed and how they are adopted in Visually Augmented Music Pedagogy (VAMP) along with Kandinsky's theories in music interpretation and notation systems. A closer look at Kandinsky's concept of art and the various teaching modalities aid in forming the VAMP practice.

Chapter Four discusses the methodology for interpreting the data results and practices of using Flow measuring methods from a broad field of educational and other academic practices.

Chapter Five analyses the lessons' core design and how the Visually Augmented Music Pedagogy (VAMP) was designed and delivered compared to the Control groups. Practical application with the lesson's synopsis is listed as how they were taught, highlighting the differences between the VAMP-infused and Control groups.

Chapter Six presents the results of the data analysis according to the EduFlow Likert-scale questionnaire, which was the chosen method of measuring the optimal experience of Flow in an educational setting. The data results are discussed along with the Teacher's notes in each of the seven questionnaires.

The final Chapter Seven discusses the conclusions drawn from the research, the contribution to knowledge and the future research plans.

## CHAPTER 2 – EXISTING LITERATURE AND CRITICAL FRAMEWORKS

### INTRODUCTION

*"Every work of art is the child of its age and, in many cases, the mother of our emotions. It follows that each period of culture produces an art of its own which can never be repeated"* (Kandinsky 1914:1).

As a music teacher for twenty-nine years, I witnessed the influence of wireless technology, personal computers, and mobile phones on my teaching of adolescents. Like El-Sofany and El-Haggar (2020), I used these technological improvements to enhance my lessons, engage my students, and make them more captivating. According to Shernoff D. et al. (2003:169), teenagers can feel bored in academic subjects. However, some students may be more interested and engaged in practical subjects like Art as opposed to scientific subjects in their school curriculum. According to Csikszentmihalyi and Larson's (1984) research, there is a correlation between class content and the attention of adolescents. They found that traditional academic subjects like math, foreign languages, and English had lower levels of intrinsic motivation. On the other hand, classes like industrial arts, physical education, and music had more tangible goals, required more than just intellectual skills, and provided a more positive and motivating atmosphere (1984:206).

Multiple studies, such as Goodland (1984), Steinber et al. (1996), and Larson and Richards (1991), have shown that boredom can greatly impact high school students and lead to disengagement from the learning process. However, there is an opposing viewpoint from Csikszentmihalyi (1990), who believes that students do not feel disconnected or alienated. By applying Csikszentmihalyi's Flow theory framework, specific conditions can enhance the excitement, stimulation, and engagement in classroom lessons.

It is important to also focus on the well-being of students. According to Ma et al. (2005:434), the number of outpatient visits by children and adolescents in the US who reported depression more than doubled from 1995-1996 (1.44 million) to 2001-2002 (3.22 million). The study brings to light the growing concern about the mental well-being of students. Additionally, it highlights

that comparable patterns have been noted in other nations, such as the United Kingdom (Ma et al. 2005:435). Singh (2020) claims that mental disorders in children and adolescents are currently an epidemic in silence. Although the research mainly focuses on India, Singh believes that other developed and developing countries are making positive steps and provisions to provide mental healthcare services towards the: “rampant cases of untreated child and adolescent mental illnesses in India and around the world” (2020:24). Researchers such as McKeering and Hwang (2019) and Roeser (2014) investigate mindful-based interventions in schools to combat the psychological pressures of schooling. According to Roeser (2014:406), a decrease in symptoms of depression was reported among middle and high school students even a year after they underwent mindful-based intervention programmes that included focused attention and various meditation practices. Shernoff D. et al. (2003:158) observed that school psychologists are concerned with persistent educational problems such as underachievement and behavioural and emotional difficulties that lead to school dropouts. During my time as a teacher, I have noticed a rising trend of students opting for home-schooling or leaving traditional schooling altogether.

The concept of mindfulness in this research project is used as the catalyst for preventing and overcoming such issues in my adolescent students. According to Bishop et al. (2004:230) “Mindfulness in contemporary psychology has been adopted as an approach for increasing awareness and responding skilfully to mental processes that contribute to emotional distress and maladaptive behaviour”. Kabat-Zinn (1990) describes mindfulness as a process of bringing a certain quality of attention to moment-by-moment experience. In studies using music as a means of achieving mindfulness in children, Auerbach and Delport (2018:2) believe that a mindful state “…is about being fully engaged in the present moment, rather than being in a distracted mode”. This research will explore how achieving mindfulness in the present moment unifies the concepts of Kandinsky's Transcendence and Csikszentmihalyi's *Flow*.

The teaching discipline of Visually Augmented Music Pedagogy (VAMP) combines visual and auditory stimuli to make the lessons more engaging for students and prevent boredom. This study also aims to address the issue of anxiety traced in adolescence by introducing mindfulness within VAMP-infused lessons. The notion of mindfulness used in this study is proposed by combining Kandinsky’s (1914) concept of *Transcendence* in arts and Csikszentmihalyi’s (1990) *Flow* theory as a way of teaching and experiencing music. This blend of these two theories aims to encourage learning and reduce anxiety in a classroom setting.

The research involves technology and teenagers' proficiency with mobile devices and also visual stimuli as a classroom experience (such as moving images, drawing, movement and dance) to help students appreciate art holistically in a more comprehensive manner. Experiencing art in this way was believed by Kandinsky to be not only a matter for the ear but for the soul alone - “and from this point begins the music of the future” (1914:17).

## 2.1 ADOLESCENCE - PSYCHOSYNTHESIS

> The noun adolescence derives from the Latin word adolescere, which means ‘to ripen’ or ‘to grow up’. Central to this maturation, is the developmental task of integrating disparate representations into a coherent whole in service of identity formation. It is in the context of the normative emergence of the agentic self that disturbed self-other function can be observed and personality pathology can be diagnosed - Sharp and Wall (2018:114).

The focus of this research is specifically on the age group of adolescents. According to the American Psychological Association (2002), no standard definition of ‘adolescent’ exists. Although it is often captured as a chronological age range, adolescence can also be defined in numerous other ways, such as physical, social, and cognitive development and age (2002:29). The American Psychological Association’s report considers chronologically speaking to be the youth ages 10-18 (2002:29). Sawyer et al. (2018) consider as more appropriate the age definition of adolescence according to developmental and social framework instead of the generalisation of 10-19 as more appropriate the range of 10-24 as it corresponds more closely to adolescent growth and popular understandings of this life phase (2018:1).

> At fourteen, the young in our culture are still considered children; at eighteen they are expected to behave like adults. Somewhere in those four years, a mature human being is supposed to emerge out of the cocoon of childhood - Csikszentmihalyi and Larson (1984:271).

The psychologist Carl Jung (1954) emphasised the significance of child psychology, education, and individuation. He emphasised that parents and teachers play a crucial role in the development of intellectual, feeling, and emotional disorders among children. According to Jung:

> Clearly, no one develops his personality because somebody tells him that it would be useful or advisable to do so. Nature has never yet been taken in by well-meaning advice. The only thing that

> moves nature is causal necessity, and that goes for human nature too. Without necessity nothing budges, the human personality least of all. It is tremendously conservative, not to say torpid. Only acute necessity is able to rouse it. The developing personality obeys no caprice, no command, no in sight, only brute necessity; it needs the motivating force of inner or outer fatalities - Jung (1954:173).

For Jung the achievement of personality means nothing less than the optimum development of the whole individual human being. It is a lifelong process influenced by biological, social and spiritual aspects and it is impossible to foresee the endless variety of conditions that have to be fulfilled. Personality is the ultimate expression of a living being's unique characteristics. This is a courageous act that defies life's challenges and affirms the importance of individuality. It involves adapting to universal conditions while also maintaining the freedom to determine one's own path. “To educate a man to *this* seems to me no light matter. It is surely the hardest task the modern mind has set itself” (Jung 1954:171).

The focus of this research is to utilise various tools and techniques to promote music knowledge and mindfulness, with the hope of facilitating a smoother transition from adolescence to adulthood. Csikszentmihalyi and Larson observe that “this transformation (from child to adulthood) if it is to occur at all, must involve adolescents’ *attention*, that is their conscious experience” (1984:13). They believe that attention might be viewed as *psychic energy*[2] because the work responding adaptively to the environment cannot be accomplished without it. Therefore, the transition into adulthood involves restructuring the psychic energy of youth (1984:14). They give an example of how young children pay attention to whatever is spontaneously enjoyable, such as playing activities that make them immediately pleasurable. For Csikszentmihalyi and Larson, the difference is that adults must learn to concentrate also on tasks that may not be rewarding right away but are necessary for getting along later in life. “This, in essence, is what socialisation means: the transformation from one type of consciousness to another. Success depends on how adolescents use their limited supply of psychic energy” (1984:14).

## PERSON AND PERSONALITY

[2] Psychic energy: is the importance of the attention as the one that determines what will or not appear in consciousness. Because attention is also required in mental events such as remembering, thinking, feeling, and making decisions, Csikszentmihalyi names it as *psychic energy* (1990:33).

The exploration of adolescents' persona, behaviour, and well-being, as highlighted earlier, served as the inception of Csikszentmihalyi and Larson's research in 1984. They employed the Experience Sampling Method (ESM) to document a wide range of activities both within and outside the school setting, ultimately giving rise to the formulation of Flow theory. It is important to emphasise that during their investigations into adolescents during the early 1980s, Csikszentmihalyi and Larson expressed profound concern over the alarming surge in teenage suicide rates, which had surged by nearly 200% since the 1950s, surpassing rates observed in any other age group (U.S. Department of Commerce 1981) (1984:15).

According to Csikszentmihalyi and Larson "Nowhere did the data indicate that sex, drugs, or random talk motivated these students most. Rather, it is things like sports, hobbies, and music that they really wish to do. These activities, *much less* common among adults, might have a particularly significant role in the experiential transition into adulthood, because they are only ones that provide adolescents with challenges and with intrinsic rewards at the same time" (1984:95-96). One finding from the research that could be applied in a classroom environment is that completing a task with friends can make the experience more enjoyable. For instance, driving in the company of friends was described as 'cruising', and doing yard work was converted into a 'game'. "Friends enliven any activity, although perhaps at the expense of the effectiveness with which the tasks are carried out" (1984:102).

Peer relationships and socialising activities are essential during adolescence as it is the period that everyone establishes a sense of their personality. Sharp and Wall (2018) state that it is a sensitive period for developing personality pathology. Adolescents' personality (and, therefore, possible disorder) is integrated and organised in nature, and the task of organising traits into a coherent whole becomes a significant focus of adolescence (2018:114).

Chanen and Thompson (2019:183) believe that although some personality traits can be observed during childhood, "Clinically significant personality disorder usually appears during the transition between childhood and adulthood, when individuals become emotionally, socially, and cognitively prepared for the developmental task of integrating knowledge and experience about themselves and others into a coherent whole" (2019:183). They continue that personality disorder occurs when individuals' personalities prevent them from achieving adaptive solutions to universal life tasks (2019:183).

Csikszentmihalyi and Larson (1984:16) observe that for adolescents “to like the world into which they are born,” every culture must find ways of engaging its youth in the responsibilities of being adults. Every culture’s education system should offer knowledge and prepare and guide the students from adolescent-hood to adulthood. This research aspires to apply the theory of *Flow* and the concept of *Transcendence* to equip adolescents with a set of skills for a mentally healthy, coherent adult.

“Each person borrows a particular mask from the cultural repertoire so as to represent a given identity that will express and amplify his or her inborn talents. In this process of borrowing and adapting, the individual constructs a personality” (Csikszentmihalyi 2014:9).

For Csikszentmihalyi, the word *Person,* from the Latin *per sonare* “to sound through”, is derived from the ancient Greek stage actors that wore masks to represent their characters that also helped to amplify their voice on stage. Philosophers and social scientists often associate *personality* as something unauthentic, a disguise rather than the expression of the individual’s genuine essence. Personhood depends on one's ability to participate and internalise the collective ideals of the community, even if it is not one’s own (2014:9-10).

“Because personhood hinges on the ability to interact and function in a sociocultural context, it follows that persons are not born, but are made. Different cultures use different techniques for making sure that children acquire the knowledge, behaviour, and emotions that will enable them to function appropriately as adults” (Csikszentmihalyi 2014:10).

For example, different cultures involve tradition and religion in a set of ceremonies to mark the transition and the formation of personhood into societal norms. For instance, in Hindu culture, the *samskaras* (life cycle rituals) are fundamental and compulsory for all ages (Hart 1992:1 in Csikszentmihalyi 2014:11). These ‘rules of conduct’ given by the *samskaras* according to Pandey (1969:32) shape children into adolescents for each successive step in life (Csikszentmihalyi 2014:11). In most Western societies, however, those cultural traditions and religious ceremonies barely cease to exist, the clear transition of higher levels of personhood are mostly marked through educational milestones such as graduation ceremonies. Therefore, culturally the role of the education system becomes central in such developmental physical and psychological formations of one’s personhood. Schools do not provide only knowledge transfer to students but also a formation of a student’s personality and personhood into societal norms that will equip them for their transition into a healthy, socially functioning adulthood. Csikszentmihalyi and Larson (1984) urge educators to “stop worrying about how to transmit information, and concentrate instead on how to make learning enjoyable, because

only when going to school becomes a flow activity will students be motivated to learn on their own, and **grow** in the process. Otherwise, education becomes just another alienating experience that increases entropy in the present while offering the specious promise of increasing future negentropy" (1984:259 emphasis added).

The focus of this study is on the implementation of Flow theory in the design of VAMP lessons, with reference to the education system in Cyprus. However, this research is not limited to this specific curriculum and can be applied to other educational systems as well. The age group that this research is focused on are mainly in the Gymnasium[3] stage of education, which is compulsory. In Cyprus almost all the students continue from the compulsory Gymnasium stage to the Lyceum stage until the age of 18. The significant level of participation in non-compulsory education can be attributed to cultural values that place high importance on education. In Cypriot culture, there is a strong emphasis on education and continuous learning. Parents view educating their children as both a duty and a significant achievement. For this reason, Cyprus has the second-highest tertiary educational attainment rate in the EU, with an average of 57.1%, whilst the EU average is 40.7% (European Commission 2019:8).

Csikszentmihalyi and Larson observe that in the "regimented educational system students will learn under compulsion, but unless they learn to enjoy learning, they will forget what they learned as soon as possible" (1984:25). They also reference Confucius's pedagogical conservatism of the prerequisites to real learning the "bursting eagerness" and "bubbling excitement" (Analects 7:8 in 1984:25). Csikszentmihalyi and Larson further reference Plato's Laws II and the work of geneticist Jacob (1977) both suggest that the most effective way to learn is through enjoyment (1984:25). Creating a joyful environment that offers the right balance between skill and challenge (Flow) that can capture the attention of the technological savvy adolescence (VAMP) is the aim of this research.

## 2.2 VISUAL MUSIC AND KANDINSKY

[3] In Cyprus, the secondary education system is split into two stages: the Gymnasium (ages 12-15) and the Lykeion (ages 16-18). Attendance at the Gymnasium level is mandatory until the age of 15.

*"Colour is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul"* (Kandinsky 1914:25).

Kandinsky (1866-1944) was a Russian abstract painter, musician and theorist who worked in Germany. He discussed the beauty of allowing each art-form to borrow from each other and regarded art holistically as a means of achieving *Transcendence*[4].

"And so the arts are encroaching one upon another, and from a proper use of this encroachment will rise the art that is truly monumental. Every man who steeps himself in the spiritual possibilities of his art is a valuable helper in the building of the spiritual pyramid which will some day reach to heaven" Kandinsky (1914:20).

Music is, according to Kandinsky, the best teacher in drawing together various art forms as, for centuries, it was music that devoted itself not to the reproduction of natural phenomena but rather the expression of the artist's soul. A painter who desires to express themselves according to Kandinsky, may envy how easily music can achieve this goal. "And from this results that modern desire for rhythm in painting, for mathematic, abstract construction, for repeated notes of colour, for setting colour in motion" (1914:19).

According to Kandinsky, colours and sounds are the essential elements that can evoke emotions. Words, on the other hand, can only provide hints or suggestions. He continues that "in this impossibility of expressing colour in words with the consequent need for some other mode of expression lies the opportunity of the art of the future" (1914:41-42). He also refers to colour as a visual expression of sound, and he even associates specific instruments as representatives of the 'sounding colour'. For example, the lemon-yellow hurts the same as the prolonged shrill of a trumpet does the ear, whereas light blue sounds like a flute, a darker blue a cello and an even darker blue a double bass. The darkest shade of colour, blue, is associated by Kandinsky with an organ (1914:24-38). For Kandinsky, the effect of colours can

[4] For Kandinsky, experiencing art is extended "far beyond the confines of art into the realm of the 'oneness' of the 'human' and the 'divine'" (1926:21). The word *Transcendence* is used here as a way of interpreting Kandinsky's idea of finding *Spirituality* in all forms of art. Although Kandinsky does not use the world *transcendence* in his writings, this research will follow the interpretation of theorists such as Stoker (2012), Morgan (1996), Kuspit (2003), and Short (2010), who believe Kandinsky's pursuit of interpreting art equals to a pursuit of reaching transcendence.

be far deeper and intensely moving to a sensitive soul as they produce a corresponding spiritual vibration. For example, the colour red can evoke a sensation similar to that of a flame. A warm shade of red can stimulate excitement, while a different shade of red might cause disgust if it is associated with flowing blood. For Kandinsky, “colour awakens corresponding physical sensation, which undoubtedly works up the soul” (1914:24).

It is highly likely that Kandinsky experienced synesthesia, a condition in which an individual's senses can become intertwined in various ways. For instance, a synesthete might taste colour or see sound as a colour. Every synesthete has a unique experience, and it remains unproven whether synesthetes have a greater ability to express or enjoy art compared to non-synesthetes. It is certain that Kandinsky’s work connected music and painting by finding ways of interpreting colour and shapes into sounds and instruments.

The borrowing of one art from another, according to Kandinsky, can only be successful when one art-form learns first how another uses and develops its methods (1914:20). This blending of arts into a ‘total work of art’ has its own terminology known as *Gesamtknustwerk* a term coined by German philosopher Trahndorff (1827), used extensively by Wagner as an ideal achievement of his operas. Like Kandinsky, the composer Alexander Scriabin (1872-1915) unified the arts and followed theosophy[5]. He aimed to create multi-sensory experiences in his compositions with the infusing of colourful lighting (Becker 1996). The Swiss-German artist Paul Klee (1879-1940), like Kandinsky, used musical symbols and forms in his paintings that derived from musical compositions. However, unlike Kandinsky, who loved expressionists and ‘modern’ composers such as Schoenberg, Klee preferred the harmony and clear forms demonstrated in the music of Bach and Mozart (Düchting 2018).

All the above artists, although different in their taste and approach to music and art, shared one similarity. They demonstrated within their art the search to find the way to reach transcendence and even explain the divine. Transcendence here is not going to be approached within any philosophical or theological way of reaching the divine but rather as a mindful practice[6]. Hence, the holistic approach to art as a discipline mentioned above aims to be demonstrated by applying VAMP as an effective educational tool that doesn't have to rely solely on Kandinsky's abstract representation of art but rather on the theory that supports it.

[5] A combination of many philosophies maintaining that Knowledge of God can be achieved within knowing oneself.

[6] See Verhaeghen (2019), Vago and Silbersweig (2012) and Bernard (2009).

Csikszentmihalyi and Larson (1984:249) describe a self-transcendence experience that occurs when adolescents engage in activities like music, dance, spending time with friends, and playing football. During this experience, they lose touch with their usual self and become less self-conscious because they are more focused on the activity. This can lead to a feeling of belonging to a more powerful system.

This research uses the importance of experiencing music multi-sensory as a way of engagement and, at the same time to create and practice a mindful environment.

## 2.3 MINDFULNESS

The broadness of *Mindfulness* is obvious as it is traceable in many religions, from the writings of Buddhism, in esoteric beliefs, interpretations of paganism, new age trends to modern treatises on ways of living. The term *mindfulness* has perhaps been almost overexploited in recent years, with examples found on the cover of *Time Magazine* special editions (Pickert 2014) and (Time Special 2016 and 2018). It has been used by various groups, including scientists, psychologists, artists, spiritual teachers and so on. The Cambridge Dictionary definition of mindfulness is: "The practice of being aware of your body, mind, and feelings in the **present**[7] moment, thought to create a feeling of calm" (Cambridge University 2008).

Van Dam et al. (2018:36) criticised the fact that mindfulness has been considered a fringe topic in scientific investigation. According to them, over the last two decades, it has been used as a replacement for psychotherapy, a well-being tool, a commonly used educational practice, and a way to build more resilient soldiers, despite lacking empirical evidence to support these claims.

Research regarding Mindfulness-Based Interventions (MBI) in pedagogical practices, according to McKeering and Hwang (2019), gives conflicting results as "the exclusion of qualitative data exploring students' experiences of learning and practising mindfulness omits valuable information that could be used to better inform implementation of MBIs" (2019:593). They are questioning whether the ongoing research on Mindfulness-Based Interventions

[7] Emphasis within the text in bold is my own (and throughout).

(MBIs) in educational practices meets the standards of Evidence-Based Practice (EBP) to be considered as an efficient educational program.

Anālayo (2019) acknowledges that (MBI) is "hampered by semantic ambiguity surrounding the term 'mindfulness'." He suggests that as a way of understanding the core quality of such research, one should investigate the historical definitions of mindfulness "as part of an ongoing cross-disciplinary dialogue between academics in Buddhist studies and in psychology under the shared aim of deepening our understanding of what mindfulness involves and how it operates" (2019:11).

Although Kandinsky and Csikszentmihalyi do not use the word *mindfulness* in their theories, the application of VAMP towards achieving *Transcendence* and *Flow* whilst being **present** is going to be considered here as the unifying aim found in both theories.

## 2.4 MINDFULNESS ACCORDING TO KANDINSKY

*"The present day is only a springboard to "tomorrow" and only in this role can it be accepted with innermost tranquillity"* (Kandinsky 1926:47).

Kandinsky was not only an artist, musician, and theorist but also one of the leaders of a new art movement in Munich called *Inner Klang.* This movement consisted of painters, poets, musicians, dramatists, and critics. Their goal was to work towards the expression of the *soul* of nature and humanity (Kandinsky 1914:xiii). Inner Klang was inspired by *Theosophy* (Greek *θεὸς* and *σοφία* = God wisdom). The Theosophical Society was founded by Helena Blavatsky in 1875 and became an influence on many esoteric beliefs in a Western society where *mindfulness* plays a vital part. Influenced by the inner power of achieving divinity, Kandinsky's work tried to define the spiritual aspect of art as a way of achieving transcendence (Short 2010:24 and Kuspit 2003:2). Kandinsky's work references spirituality and the impact of art on our soul. He references Nietzsche's view that when religion, science and morality are shaken, man turns his gaze from externals to himself (1914:14). For Kandinsky, art such as literature, music and painting are considered the most sensitive spheres for the *spiritual evolution* to make itself felt. "They reflect the dark picture of the present time and show the importance of what at first was only a little point of light noticed by few and for the great majority non-existent" (1914:14). I suggest that he refers to the artist as one of the *enlightened* few and thus art as

the *translation* of the divine. Yaden et al. (2017:143) also explore the "self-transcendent experiences" that are contained within the psychological constructs of "mindfulness, flow, peak experiences, mystical-type experiences, and certain positive emotions (e.g., love, awe)".

## KANDINSKY'S TRANSCENDENCE AS MINDFULNESS

"Art is not vague production, transitory and isolated, but a power which must be directed to the development and refinement of the human soul" Kandinsky (1914:54).

Stoker defines 'Transcendence' in the works by Kandinsky, Rothko, Warhol, and Kiefer as "crossing a border, and in a religious sense, this is viewed as a concern with something sacred or holy. It often functions as an umbrella term without there being any further discussion of the way in which art deals with the holy or how the relation between heaven and earth is depicted" (2012:3). In his analyses, Stoker acknowledges that although the above artists aim to achieve 'Transcendence' through their art based on their individual spiritual beliefs in secular art, he asks the question of why we, as human beings, long for transcendence (2012:5).

As stated by Stoker (2012), there are three types of Transcendence: the *immanent transcendence;* the *radical transcendence* and the *radical immanence transcendence.* The first, *immanent transcendence,* refers to the immediate connection between God and humankind – "both realities are presented as closely related; the absolute is experienced in and through earthly reality". In this type of *transcendence*, Stoker includes Warhol's and Kiefer's artwork[8] (2012:20). Stroker describes the second concept of *radical transcendence* as the relationship between God and humans, where "the absolute is the wholly other and thus sharply separated from our reality" (2012:21) - in this type he includes the artwork of Rothko[9]. In the final third type, *radical immanence transcendence,* according to Stoker, is the "here and now" and the "beyond"; "the absolute is no longer to be sought outside earthly

[8] Examples such as Andy Warhol's: *The Last Supper (the Big C)* (c.1985), *The Last Supper/Be Somebody with a Body* (c.1985-1986), *The Last Supper (Dove)* (1986) and Anselm Kiefer's: *Heaven-Earth* (1974), *Departure from Egypt* (1984-1985), *The Order of the Angels* (1984-1986), *Zim Zum* (1990).

[9] Mark Rothko's *The Omen of the Eagle* (1942), *Number 10* (1947), *Number 17* (1947) and *Light, Earth and Blue* (1954).

reality" (2012:21). "Transcendence here is a matter of going beyond the material world as externality to the spiritual world as the inner element of things… the absolute is sought not outside but withing earthly reality, in its inner core" (2012:76). This type in contrast to the first two, the relationship between God and the world is symmetrical: no world without God and no God without a world. In this category, Stokers includes the artwork of Kandinsky[10]. This research combines both Kandinsky's and Stoker's writings in translating the concept of achieving 'Transcendence' in Kandinsky's art.

For Kandinsky, a state of transcendence is a state of mindfulness in the present moment, the 'here and now'. "For many years I have sought the possibility of letting the viewer 'stroll' within the picture, forcing him to become absorbed in the picture, forgetful of himself" (Kandinsky in Lindsay and Vergo 1994:369).

Kandinsky's correlation between sounds and colours further increases transcendence through his art. For Kandinsky "One's attitude to the work of art must be such that the form produces upon the soul. And by means of the form, the content (spirit, inner sound)" (Lindsay and Vergo 1994:239). He continues, "The aim of art (…) The correct means that the artist discovers is a material form of that vibration of his soul to which he is forced to give expression. If this means is correct, it causes a virtually identical vibration in the receiving soul" (Lindsay and Vergo 1994:257-258). Stoker asks whether "someone who views Kandinsky's work have points of contact that enables him or her hear the inner sound" (2012:80-81). Stoker continues that for Kandinsky the word "heaven" is the inner sound of things (2012:194).

"My capacity for engrossing myself in the inner life of art (and therefore, of my soul as well) increased to such an extent that I often passed by external events without noticing them" Kandinsky (in Lindsay and Vergo 1994:371).

Since the visual aspect of the current research is based on Kandinsky's concept of transcendence/mindfulness, every time the visual aspect of the research is mentioned, it should be regarded as an adaptation of Kandinsky's perception of art.

## 2.5 MINDFULNESS ACCORDING TO CSIKSZENTMIHALYI

[10] Examples mentioned: Wassily Kandinsky's *Lady in Moscow* (1912), *Black Spot I* (1912), *Composition 6* (1913), *Composition 8* (1923) and *Yellow-Red-Blue* (1925),

"That is one outcome of flow, that the ego or self-consciousness disappears. But there is an interesting paradox there, because after an experience of flow, people experience their own self as being stronger and more vital than it was before. In a sense, the sense of the self disappears during the experience but afterwards comes back stronger than it was. Not only that, but there is even very often a sense of *transcendence*, that is, that you are no longer alone within your own little defensive self, but you are part of something bigger, larger". Csikszentmihalyi (2014a:137 emphasis added).

Csikszentmihalyi, as a 21st-century psychologist, has no temporal relationship with Kandinsky, but their theories have areas of common ground. For instance, Csikszentmihalyi is concerned with dealing with *chaos* in order to achieve *Flow* (1990:192-213). Kandinsky also describes early 20th-century society as being a modest version of an 'abyss' where human beings are completely absorbed with the external by leading their inner expression towards a 'blind alley'. "The 'modern' individual seeks inner tranquillity because he is deafened from outside and believes this quiet to be found in inner silence" (Kandinsky 1926:63). Whether or not the society that both Csikszentmihalyi and Kandinsky describe is relevant to today's society is a matter of another debate. What is important for this research is to isolate the ways that mindfulness can be derived from both their theories as a way of reducing anxiety and increasing skill in a classroom setting.

Csikszentmihalyi describes his theory of *Flow* as "the positive aspects of human experience - joy, creativity and the process of total involvement with life" (1990: vii). Flow is the complete absorption of what one does, resulting in joy and a sense of timelessness. Since Flow and the feeling of loss of time are only experienced within actions that are happening at the present time, then it can be compared with and considered analogous to mindfulness.

Csikszentmihalyi addresses the universal question: "when do people feel most happy?" (1990:2). Using as a tool the modern discipline of psychology, he 'discovers' happiness is not a matter of chance or good fortune or caused by outside events, but rather our interpretation of them. Happiness is, according to the author, a condition that can be prepared and cultivated in each person. It is the result of how people control their inner experience and determine the quality of their lives (1990:2). For Csikszentmihalyi, Flow is achieved during an Optimal experience (a sense of transcendence). This experience happens on rare occasions when we feel a deep sense of enjoyment, rich epiphanies, of what life should be like. He gives examples

of optimal experiences, such as the painter looking at the colours of his canvas taking shape, to prisoners in concentration camps sharing a crust of bread with a friend (1990:3).

Csikszentmihalyi states that optimal experience is something we make happen when our body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile (1990:3). The concept of Flow is, therefore, "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it" (1990:4).

"The ego that surveys and evaluates our actions disappears in the flow of experience; one is freed of the confines of the social self and may feel an exhilarating sense of *transcendence*, of belonging to a larger whole (…) These qualities describe how people feel when they enjoy what they are doing" (Csikszentmihalyi and Larson 1984:251 emphasis added).

Csikszentmihalyi's theory has informed practice in a wide range of fields, from the creation of experimental school curricula, the training of business executives to the design of leisure products and services. Flow theory is used in practices such as "clinical psychotherapy, the rehabilitation of juvenile delinquents, the organisation of activities in old people's homes, the design of museum exhibits, and occupational therapy with the handicapped" (Csikszentmihalyi 1990:5).

For Flow to be achieved, there are some very important components that the author lists, such as *control of consciousness - psychic energy - conditions of Flow.* The control of consciousness is not implied to have any mystical or spiritual interpretation, but rather like the ability of ourselves to be happy or miserable regardless of what is happening 'outside' of our mind (Csikszentmihalyi 1990:24). Csikszentmihalyi considers as *psychic energy* the attention that is required mentally such as remembering, thinking, feeling, and making decisions (1990:33). The *conditions of Flow* are according to Csikszentmihalyi eight conditions that people have reported experiencing during *Flow.* Most people describe at least one, and often all of the following conditions/dimensions[11]:

- Confront tasks we have a chance at completing.
- Concentration of the task that we are doing.

[11] This research's methodology for measuring Flow will include a questionnaire specifically designed for education purposes where all the above conditions will be addressed and analysed (Chapter 4).

- Clearly defined goals.
- Immediate feedback.
- Effortless involvement that removes from awareness the worries and frustration of everyday life.
- Sense of control over their actions.
- Concern of self disappears yet paradoxically the sense of self emerges stronger after the Flow experience is over.
- Sense of time is altered, completely lose track of time.

Shamma (2009) makes the correlation between Csikszentmihalyi's (1990) flow state of what he calls Kandinsky's (1926) models of art consumption. He parallels Csikszentmihalyi's balance between *anxiety* and *boredom* with Kandinsky's axes of *lyrical* and *dramatic* as a way of describing abstract expressionism to the viewer.

"During the gradual transition from horizontal to free acentric lines, the cold lyric character is transformed into an ever warmer one until it finally acquires a certain dramatic flavor. The lyric quality, nevertheless, remains dominant. The entire field of straight lines is lyric, a fact which can be explained by the effect of a single force from the outside. The dramatic (and in the cases mentioned, the acentric) carries within it- aside from the sound caused by relocation- the sound of collision as well, for which at least two forces are necessary" (Kandinsky 1926:67).

For Shamma (2009) Kandinsky's synaesthesia is the cause of the two forces (lyrical and dramatic) acting as either alternating effects or simultaneous effects. "The former happens in sequence while the latter happens together" (2009:71). When the simultaneous effect happens at the same time, the emotional impact is stronger. According to Shamma, Kandinsky (1926) uses the word 'hotter', as the perceived outcome of multiple conflicting influences. He continues that according to Kandinsky, as the viewer further examines the painting, the dramatic moves and plays with the lyrical painting are supporting it and creating it. Over time, the viewer's focus will shift to the dramatic composition. and the 'harmonic pulses' will then ensue within the viewer. "He clarifies that without the lyrical, the painting will be too much for the viewer ever to comprehend. In Csikszentmihalyi's (1990) terms, the purely dramatic yields anxiety and the purely lyrical yields boredom. More so, what Kandinsky (1926) describes in *Point Line to Plane* is, in fact, the viewer's experience in Csikszentmihalyi's (1990) flow channel" (Shamma 2009:71).

## 2.6 MUSIC, FLOW AND VISUALLY AUGMENTED MUSIC PEDAGOGY (VAMP)

The role of music in education is acknowledged by Csikszentmihalyi's disappointment that the first cuts in education are often made to music classes. He was discouraged that the three basic skills of listening to music, which are so important in improving the quality of life, are generally considered to be superfluous in the educational curriculum. Listening to music as organised auditory information is, according to Csikszentmihalyi, an aid that helps organise the mind that attends to it (1990:109). The author also observes that in every known culture, music has been used extensively to improve the quality of life. One of its most popular functions is to focus listeners' attention on a "desired mood" (1990:108).

Csikszentmihalyi does not distinguish whether *making music* is playing or composing music. I believe that the ambiguity in this case is intentional, to highlight the similarities in the transcendent experience of playing, singing, and composing music. This reinforces the idea that making music involves creating sound. This is very important in an educational setting as all the above acts of *making music* are involved in a music lesson in a school curriculum. The act of *making music* also "have rules that require the learning of skills, they set up goals, they provide feedback, they make control possible" (1990:72). He admits that not all people have the same potential to control consciousness. He gives an example of schoolchildren with learning disabilities and lack of attention disorders, as their lack of control over attention is likely to influence their psychic energy (1990:83-84). The author acknowledges that achieving a state of Flow from a regular experience is challenging, but also believes that anyone can enhance their capacity to do so (1990:83). Therefore, it is recommended to implement it in all educational environments, including with students who may have shown signs of attention or other disorders.

Visually Augmented Music Pedagogy (VAMP) as a teaching tool and as a way of gathering attention, eliminating boredom and reducing anxiety among adolescents is the main focus of this research. When necessary, some multimedia applications free of charge, are going to be utilised in this research in order to inspire students who have not received formal musical instrument training to explore their creativity by interacting with a familiar device, such as their mobile phone or tablet, instead of a traditional musical instrument. VAMP as a teaching tool is not going to be only based on technology, but rather the equal importance of the visual as well as auditory teaching of music. VAMP will also serve as a method of imparting a particular

lesson using traditional teaching aids like a video projector, in addition to visualising music through shapes and drawings, among other things.

The use of music technology in education, according to Hillier et al. (2015:1), is slowly gaining momentum. They conducted research with adolescents and young adults with autism spectrum disorders (ASD) by using music technology in the form of tables/iPads they concluded that more than half of the participants reported feeling less stressed and anxious at the end of the programme compared to their responses at the beginning. In summary, their analysis revealed that the individuals who utilised these technological resources experienced social advantages from the program and established friendships. Although this research is not focused on adolescents with disabilities, it is interesting to see how music technology has aided the learning styles of the audism spectrum students so that it helped them to overcome anxiety and to promote socialising skills. According to American Psychiatric Association (2013), Autism Spectrum Disorder (ASD) is characterised by significant impairments in social interaction and communication skills, repetitive behaviours, and highly restricted activities and interests. Untreated ASD cases are very easy to find as, according to the above research one in every 68 adolescents can have ASD with subtle indicators such as difficulty making eye contact, understanding social clues, social reciprocity and reading others' emotional expressions and expressing their own emotional stages, can be easily passed as shyness among teenagers. Furthermore, anxiety and depression are also common among ASD sufferers (Hillier et al. 2015:1). Adolescent's self-consciousness might also be an indication of other psychological conditions such as depression (Thapar et al. 2012 and Collishaw 2009) and personality disorders (Singh 2020).

Csikszentmihalyi's and Larson's research (1984) compared the psychosynthesis of two opposing students, a rule-breaking one and a violin virtuoso, on what makes them feel fulfilled and happy. They concluded that the first student search for a thrill by finding challenges in the forbidden activities of drinking and smoking pot and the unpredictable outcomes if found out created a belief for the student that "short burst of pleasure interspersed with apathy are the best recipe for living one's life" (1984:114). According to Csikszentmihalyi and Larson, both students have strong egos, do not like to fail, get negative feedback, and have similar mood swings. Although similar psychosynthesis of both students, the virtuoso one has managed over time to train her body and mind with endless hours of practising the violin towards a fine balance between skills and challenge that is the basic formula for experiencing Flow. So much so that the virtuoso student gets pleasure for practising the violin alone and working towards her goals purposefully channels her psychic energy towards learning to enjoy being an adult. On the other hand, the instant gratification rule-breaking student, by being compulsive, avoids

the responsibilities and commitments of adulthood due to the insatiable desire for short thirls and lack of need for self-improvement (1984:115-119). It is also interesting to observe how the thrill-seeking student of the initial research conducted in 1984 was characterised as narcissistic then, before the invention of the internet and the social media culture of today that promotes such 'prototypes'. This attitude is what prompted Larch's (1979) book *Culture of Narcissism,* and more recently, according to Grannon and Willett (2019), narcissistic personality disorder is becoming more and more noticeable, especially in the last decade with the evolution of social media.

How can the Flow theory help? If goal setting and self-improvement through knowledge is the aim of education in order to navigate the adolescent into adulthood, then experiencing Flow should encourage personal growth. Csikszentmihalyi and Larson quote Riegel (1976) that "the impetus for growth usually comes from a challenge that cannot be avoided" (1984:125). Navigating challenge and skill to avoid anxiety and boredom is the basic aim of Flow theory. "Perhaps the secret of adolescent development is to achieve this transition so that the second half of the life is as lively as the first, instead of being poisoned by regret and frustration" (Csikszentmihalyi and Larson 1984:115)

Csikszentmihalyi mentions two types of personalities that are unlikely to experience Flow. The self-conscious people that are constantly worried about how others perceive them, and the self-centred ones. Both types demonstrate difficulty in controlling their psychic energy in order to enter into a Flow experience (1990:85). Self-consciousness is, according to Csikszentmihalyi, a real burden, that makes people defensive and feel inferior, and it is especially obvious with children at school that worry about how their peers perceive them. "This self-consciousness in the classroom is one of the reasons why they don't process the information the teachers give, because there is this barrier of the attention being spent trying to look smart or look cool or look whatever. That takes away the attention that, ostensibly, should be used to process information" (Csikszentmihalyi 2014a:136-137)

**CONCLUSION CHAPTER 2**

Engaging in social media or activities such as watching television (or programmes on any platform) seems to be today's teenagers' preferred pastime. Csikszentmihalyi proposes writing and daydreaming as potential alternatives. He suggests that engaging in these

activities can help us prepare for hypothetical scenarios, develop tactics for dealing with them, explore different options and their outcomes, and come up with potential solutions (1990:120). Singer (1966) also supports the view that daydreaming is a skill that helps create order, yet many children never learn to use it. Csikszentmihalyi observes that “in today’s world we have come to neglect the habit of writing because so many other media of communication have taken its place” (1990:131). Regarding new forms and literacy theories in pedagogy through writing-based media in classrooms and curricula all over the world, Pandya and Sefton-Green (2020) claim that scholars, teachers and practitioners “have all provided changing lenses to make sense of communication in old and new media, bringing the visual, the oral, the dramatic, and now the digital into multiple modes of communication” (2002:2). They continue that such practises have “shown how young people all over the world learn across and with different media and indeed draw on diverse cultural and multilingual worldviews as part of their everyday literacies” (2020:2). Such communication practices that can include the visual the oral the dramatic and the act of daydreaming as suggested by Singer (1966) and Csikszentmihalyi can be all combined into VAMP. If Flow is achieved by encouraging such activity via the use of VAMP lessons, then the balance between boredom and anxiety could be achieved through VAMP.

In his book, Csikszentmihalyi (1990:76) uses a diagram to illustrate the Flow channel, where the balance between skill and difficulty can alleviate both boredom and anxiety (Figure 2.1).

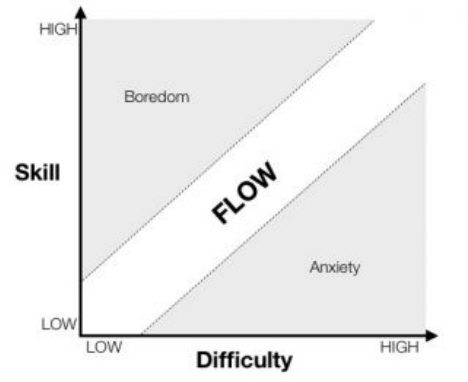



**Figure 2.1** - Csikszentmihalyi’s Flow diagram (1990:76)

For Csikszentmihalyi, “Flow is important both because it makes the present instant more enjoyable, and because it builds the self-confidence that allows us to develop skills and make significant contributions to humankind” (1990:42).

He observes that learning changes from joy in a child's life into an external imposition when schooling starts. The initial excitement of mastering new skills gradually wears out, especially within the narrow boundaries of 'the self' developed in adolescence. If there is not any new appeal for adolescents "reaping extrinsic rewards for it, one may end up no longer enjoying life, and pleasure becomes the only source of positive experience" (Csikszentmihalyi 1990:47). He observes that most teenagers cannot bear solitude and therefore have difficulty in controlling their consciousness. This can lead to adulthood without discipline and the ability to enjoy life (1990:171). Adolescents often use their choice of music to demonstrate peer pressure and acceptance. Csikszentmihalyi and Rochberg-Halton (1981), Csikszentmihalyi and Larson (1984) and Larson and Kubey (1983) have discussed how peer pressure can alter teenagers' behaviour. It is, therefore, important to take these into consideration when designing and delivering VAMP lessons. Hopefully, by achieving Flow, issues of self-acceptance should no longer interfere with the learning process.

"The concept of transcendent music-making experiences provides powerful insights into a unique feature of musical engagement. Music educators at all levels can relate to and learn from a more nuanced understanding of the unique qualities of musical engagement" (Bernard 2009:1).

Bernard (2009) applied the theory of Flow to his university students by asking them to recall and report if they experienced transcendence through performing. He stated that during the period of four years of recording the autobiographical accounts of his students' experience in making music, the pattern that emerged was that many of his students described having transcendent experiences.

In addition, Csikszentmihalyi and Schiefele (1992) observed how various researchers highlight the multi-sensory expressive nature and enjoyment in music-making activities. Custodero (2002) reported the Flow state of students from infancy to eleven. Whalen (1997) researched how highly capable adolescent learners experienced Flow and found the subject of music to be a quintessential Flow activity (1997:7). Montarou (2014) reported achieving Flow by organising his art classes with quick sketching exercises whilst listening to music. Regarding the connection between Flow theory and mindfulness, Komagata and Komagata (2010:4) acknowledges both the similarities as well as the differences. There is substantial research regarding the concept of mindfulness, Flow, creativity, education, and music; however, none so far has addressed the concept of mindfulness infused by the theories of Kandinsky and Csikszentmihalyi as an educational tool.

Csikszentmihalyi observes that similar to religious experiences, if you sing in a choir or play with a group, a symphony, one of the most obvious things that people report is that they experience their own voice, the music they are making, as now being part of a much larger unit and it's a feeling of expanding the boundaries of the self. "That transcendence of going beyond the boundaries is a common experience. Even surgeons, who are, among professionals, some of the most addicted to the flow they get from the profession— they like to cut up people, they like to sew them back together—one of the great things about surgery is the teamwork that happens when everybody—the nurses, the technicians, the anesthesiologist—are all meshing together into a greater unit" (Csikszentmihalyi 2014a:137).

The importance of music is apparent in Csikszentmihalyi's writing when he quotes Plato who believed that children should be taught music before anything else so that by learning to pay attention to rhythms and harmonies, their "whole consciousness would become ordered" (1990:111). Music is a vital part of a teenager's life, and it is worth mentioning that Csikszentmihalyi's and Larson's research concluded that seventeen out of twenty activities described as positive experiences among adolescents during the day involved music (1984:243). One student even described the experience of going to a music concert as: "afterwards, the effect may last over two weeks" and feeling a "natural high" (1984:245).

Music taught in schools should aim to motivate the students to want to learn and thus manage to grow and develop skills that will help them transmit into healthy adulthood. This research aims to achieve the desired outcome by utilising VAMP in Flow theory. VAMP consists of a blend of activities such as multimedia applications, drawings, viewing, mimicking, composing, and playing. Each activity is adjusted according to the taught subject that is part of the overall curriculum. The variety of the activities depends on the morphology of each lesson.

*Flow* - by balancing challenge and skill - and *Transcendence* - by combining the arts together - is what VAMP music lessons aim to achieve. By doing so, the research aims to show students a learning tool that not only aims to transfer knowledge of a specific taught lesson but also encourages self-growth and control of the psychic energy of adolescence. Hopefully, a skill that can navigate them throughout adolescence and into healthy adulthood.

## CHAPTER 3 – EDUCATION

### INTRODUCTION

*"What is learned in high school, or for that matter anywhere at all, depends far less on what is taught than on what one actually experiences in the place"* (Friedenberg 1966:89).

Education systems are academically in a constant shift and reviewing stage; however, applying all the changes from the educators can take years, even decades. Personally, I have experienced many different teaching approaches proposed by each music inspector during my teaching career and the evolution of media and technology that had to be incorporated into my teaching methods. Embracing new methods and approaches is part of every teacher's job and something that most of us are happy to 'oblige'. However, acknowledging the need to change and evolve and do it successfully is a different case when dealing with time-consuming bureaucracy, heavy teaching load, preparation, marking, adolescents, and the recent global pandemic. This chapter looks at the foundations of education's core values and suggests that by teaching music visually, the classroom experience can be enjoyed by both the teacher and the student by making the classroom experience personable, memorable, and enjoyable.

### 3.1 AIM OF EDUCATION – GROWTH, BEHAVIOUR, MOTIVATION AND CREATIVITY

According to Csikszentmihalyi, schools should teach what living truly means, and that should be the ultimate goal for everyone. "To really live means to be able to express one's unique individuality, to hone one's strengths to their limits, while becoming fully part of the human network, and contributing to it" (2014:xxii). As a music teacher, the first and most crucial ingredient I aim to transmit to my students is the psychological frame of "wanting to learn". No matter how friendly, well-prepared, gifted, educated, and enthusiastic a teacher is, if the student is not willing to learn, there is nothing possible a teacher can do. Universally every teacher's frustration is having all the tools to provide the information, and the student refuses to listen. There is no technology to date to open their heads and upload the data. "Wanting to learn" becomes even more of a task when students have attention, behavioural and academic

limitations. Of course, the long hours, the extensive curriculum, class design, chair comfort, weather and so on can be added to fulfilling the task of "wanting to learn". I believe that with a Visually Augmented Music Pedagogy (VAMP) infused curriculum, students can be motivated into a creative and pleasurable experience of learning that can lead to personal growth.

**GROWTH**

"The flow experience that results from the use of skills leads to growth; passive entertainment leads nowhere" (Csikszentmihalyi 1990:162).

Firstly, we must differentiate between pleasurable and leisure activities and the experience of flow. According to Csikszentmihalyi, leisure activities such as food, spending money, watching tv or having power over people are pursuits of spontaneous sources of pleasures that do not lead to growth. Adolescents who enjoy only pleasurable sensations miss out on many opportunities to develop skills and mental structures that would allow them to meet future entropy and self-growth (Csikszentmihalyi and Larson 1984:264). There is a distinction here between pleasure and enjoyment. While pleasure, according to Csikszentmihalyi and Larson, does not lead anywhere, enjoyment, on the other hand, stimulates the acquisition of new skills and thus promotes growth. "What is more, it does so without increasing entropy in adolescent consciousness" (Csikszentmihalyi and Larson 1984:252). Flow experience involves trying to do new things and improving them each time. This implies growth. The enjoyment that derives from Flow is recaptured by formulating increasingly complex goals, facing new challenges, and learning new skills. "Thus, enjoyment is like a built-in thermostat. That indicates whether we are operating at full capacity, at the leading edge of growth. Yet many people resign themselves to lives of boredom, or of constant worry, and give up the opportunity to grow" (1984:269). Csikszentmihalyi and Larson also observe that adolescents' external obstacles, such as harsh environments, oppressive social systems, and depressive childhood, are factors that can block growth. "The more attention is required just for *physical survival*, the less of it is left to discover paths of growth" (1984:269 emphasis added).

Csikszentmihalyi also observes that "attentional disorders and stimulus over-inclusion prevent flow because psychic energy is too fluid and erratic" (1990:85). Excessive self-consciousness and self-centeredness hinder attention due to rigidity. Both extremes do not enable an individual to have control over their focus. "Those who operate at these extremes cannot enjoy

themselves, have a difficult time learning, and forfeit opportunities for the growth of the self" (Csikszentmihalyi 1990:85).

Getting the attention of students that might be facing family and psychological issues or even suffering from personality disorders can be challenging for the teacher. Although the hypothesis of the research is that by injecting VAMP, it will be easier to get the attention of students to achieve a Flow state, it will also be important to observe whether students that isolate themselves or with behavioural and disciplinary problems can have access attention aside from the one required just for *physical survival* to experience flow.

Growth can also be encouraged by seeing the results of a task completed. Csikszentmihalyi (1990:41) believes that the self becomes more differentiated because of Flow as the achievement leaves the person feeling more capable and more skilled. He gives the example of the rock climber that looks in awe at the self of the distance achieved. Education should aim exactly that, to make the students proud of their achievements to help them grow into healthy adults. By experiencing Flow in education, and in my case of research in the music lesson with the use of VAMP, the aim is not only to transfer the desired knowledge of the taught subject but to make the students accustomed to a set of skills and control of self that can help them experience Flow.

> Collectively we are wasting each year the equivalent of millions of years of human consciousness. The energy that could be used to focus on complex goals, to provide for enjoyable growth, is squandered on patterns of stimulation that only mimic reality - Csikszentmihalyi (1990:162-163)

We should equip the students to learn to enjoy learning so that in the future, they carry on enjoying their work. "The future will belong not only to the educated man but the man who is educated to use his leisure wisely" (Brightbill, in Csikszentmihalyi 1990:163).

**BEHAVIOUR**

One of the work tasks as one of the deputy headteachers in the school where I work involves keeping discipline and giving punishments such as detention to rule-breaking students. Behaviour problems among adolescents are often caused by academic limitations, lack of concentration, problems among peers and family and, of course, it can be simply hormonal. The most common 'offences' in my daily disciplinary discussions with the students that have

been reported to me are the disruption of the lessons during the class. These can be from talking to their peers to talking back and verbally abusing the teacher. Other more serious offences include bullying and breaking school property. The punishment given to students starts from conversation to detention – which always involves one up to six-day absences from school depending on how serious the crime was. Of course, prevention is the most desirable solution for students and teachers as detention rarely works as a disciplinary solution from my experience and Gerlinger et al (2021:1493).

According to Csikszentmihalyi, learning how to control one's consciousness will help adolescents grow up to have 'discipline'. If this is not achieved, they will lack the complex skills that will help them survive in a competitive information-intensive environment, but most important, they will never learn how to enjoy living. "They do not acquire the habit of finding challenges that bring out hidden potentials for growth" (Csikszentmihalyi 1990:172). Csikszentmihalyi and Larson (2014) believe that restructuring education in terms of intrinsic motivation would not only reduce school crime but would also teach the youth how to enjoy life constructively (2014:271). When students are not motivated by academic achievement, and they are bored, they find alternative challenges in antisocial behaviour by disrupting lessons, vandalism and even violence as an attempt to obtain enjoyment. Lack of motivation in school subjects leads students to find Flow in activities such as school crime. Fighting the school system, peers, parents, or teachers becomes, in itself, a balance between skill and challenges for adolescents that do not get their motivation from the school's curriculum. Students that refuse to gain academic skills see no other opportunities for action found in violence and destruction, a ready source of enjoyment. There is always the risk that a sense of Flow can be attained by crime and activities that adolescents can get into (Csikszentmihalyi 1996 and Bettencourt 2017).

According to Csikszentmihalyi and Larson (2014) "the main goal of a truly civilized education is to teach children to experience Flow in settings that are not harmful to self and others. As Plato maintained, the educational system should be oriented to teach youths how to find pleasure in action which strengthens the bonds of human solidarity instead of weakening them" (Csikszentmihalyi and Larson 2014:278).

**MOTIVATION**

School lessons and activities should aim to provide Flow experiences so that students should be intrinsically motivated to participate. Motivating the students to give a teacher a chance to deliver their lesson is one thing; processing and accepting the information is another. According to Csikszentmihalyi, this has to do with creativity (2014a:131), as he recalls one of the interviews with famous inventors. He quotes the enthusiasm of the seventy-six-year-old inventor of over one hundred patents, describing his thought process for solving a problem: “It is really a lot of fun to solve problems, isn’t it? Isn’t that what is interesting in life?” (2014a:131).

Csikszentmihalyi observes that in higher education, motivation is based on students’ willingness to pursue knowledge for its own sake, and this fails if the student is studying simply in order to get a degree. “The best way to get students to believe that it makes sense to pursue knowledge is to *believe in it oneself*” (Csikszentmihalyi 2014b:173 emphasis added). Thus, teachers’ enthusiasm and encouragement are considered essential aspects of successful outcomes. The teachers that love their job will project an enthusiasm that can be contagious. Even if the student cannot be fully engaged in the subject, just seeing the teacher’s motivation is sometimes enough to make the students ‘wonder’ why the teacher is so excited. Csikszentmihalyi observes that they are too many variables, such as students’ talents and interests, that can determine whether a student might be engaged in a specific lesson. However, if they witness a math teacher, a subject they are already convinced is boring or meaningless, being enthusiastic, they will know that it is possible to love it because their teacher demonstrated it (Csikszentmihalyi 2014b:178).

“Socialisation is supposed to be based primarily on fear, envy, and greed. Somehow this neat explanation manages to ignore the rather obvious fact that young people will imitate adults who find life worth living—even in the absence of status, power, and control over resources” (Csikszentmihalyi 2014b:178).

A way of motivating the students to join in the teacher’s enthusiasm is to make them enjoy the lesson. “When Plato wrote about the conditions necessary for learning in the Symposium and Phaedrus, the major part of his argument revolved around the importance for young people to enjoy what they were being taught” (Csikszentmihalyi 2014b:179). According to Dewey 1938:79), the educator’s responsibility is to balance two things. First to balance the conditions of experience *in the present* and, secondly, to generate within the students a quest for information and the production of *new ideas* (Csikszentmihalyi 2014b:180 emphasis added).

In a classroom setting that is an experience in the *present moment*, teaching can generate *new ideas* and creativity, bringing enjoyment to both the teacher and students, and fostering growth. VAMP seeks to accomplish precisely that.

## CREATIVITY

“The creative adult is the child who has survived” (Le Guin 2017:120).

In Ancient Greece, the inspiration for creativity was believed to come from the nine muses that were responsible for any creative process. Similarly, Csikszentmihalyi describes the creative process of the poet Gyorgy Faludy listening to a voice when ready to be creative and the novelist Robertson Davies seeing a vision, a picture of his future novel (Csikszentmihalyi 1996:114-115). The research will argue that incorporating VAMP into lessons can stimulate creativity while utilising students' senses and achieving a state of flow.

“Creativity involves the production of novelty. The process of discovery involved in creating something new appears to be one of the most enjoyable activities any human can be involved in”. For Csikszentmihalyi, the conditions of Flow are easily recognisable in the description of creative people through their feelings in an activity at hand. He believes that for artists, the goal of the activity is not easily found. The more creative the problem, the less clear it is what needs to be done (Csikszentmihalyi 1996:113-114).

According to Hang (2017:9), “Creativity cannot be understood by looking only at people who appear to make it happen”. He continues that creativity should be observed as an idea, an act, or a product that changes or transforms an existing domain into a new one. Therefore, a creative person “is someone whose thoughts or actions change a domain or establish a new domain”.

The neuroscientist Eagleman (2018) believes that for the brain to be creative and stay focused, it needs novelty. However, too much novelty might alienate the brain, so it needs something in between. If there is a repetition, the brain stops focusing. It appears that the statement above is a rephrased version of Csikszentmihalyi's flow chart (Figure 2.1 in Chapter 2). For Eagleman, repetition equals repression.

“Even though personal creativity may not lead to fame and fortune, it can do something that from the individual’s point of view is even more important: make day-to-day experience more vivid, more enjoyable, more rewarding” (Csikszentmihalyi 1996:344).

Creative thinking is key to learning because it involves applying knowledge to problem-solving. Since creativity is mostly associated with artistic activities, Csikszentmihalyi, in one of the research projects, interviewed over one hundred people that worked in areas like art, music and dance. He observed that these people spent enormous amounts of time and energy practising their artistic activities without expecting to be rewarded. These activities are so attractive and enjoyable that artists give up the pursuit of traditional rewards like money and status just to be able to experience that activity. This is according to Csikszentmihalyi, the Flow experience “is what you feel when you’re doing things that are so enjoyable that you want to pursue them for their own sake” (2014a:132). Thus, music as a curriculum subject has all the potential to achieve the knowledge skills and practices for flow experience in learning something that then the students can cultivate as a technique for other subjects and self-growth.

### 3.2 MINDFULNESS IN EDUCATION AND FLOW THEORY

According to Sheinman and Russo-Netzer (2021) since the 1970s when mindfulness was introduced into medicine, its use and benefits have expanded and were introduced into the education field in hopes of enhancing well-being, mental health, social and emotional skills, resilience, prosocial behaviour, and academic performance. As the number of academic research relating to mindfulness in education has risen exponentially, discussions of utilising mindfulness in education have involved bodies such as the United Nations Educational, Scientific, and Cultural Organization (UNESCO), The Organization for Economic Co-operation and Development (OECD), the World Bank, and the World Economic Forum (Sheinman and Russo-Netzer 2021:609). The evolution of mindfulness with programs in educational settings such as Ergars and Hadar (2019); Meiklejohn et al. (2012); Semple et al. (2017) demonstrated that mindfulness in education “can be framed and implemented in a variety of ways applied towards various aims, deliver a multitude of potential outcomes, and support the betterment of both students and teachers” (Ergas and Hadar, 2019; Felver and Jennings, 2016 in Sheinman and Russo-Netzer 2021:610).

By adopting the *Flow* theory by Csikszentmihalyi and the *Transcendence* state suggested in holistic art by Kandinsky, the teaching philosophy of this research looks upon using and enhancing mindful practices in education. Many researchers, such as Karunananda et al. (2016), acknowledge that the skills that can derive from cultivating mindfulness in education can be retention, thinking, problem-solving and emotional balance. At the same time, they acknowledge that "there is only limited research on the effect of mindfulness training in educational settings" (Karunananda et al. 2016:23-24). They use Boom's taxonomy (1956) to encourage the use of cognitive skills, including mindfulness (Figure 3.1).

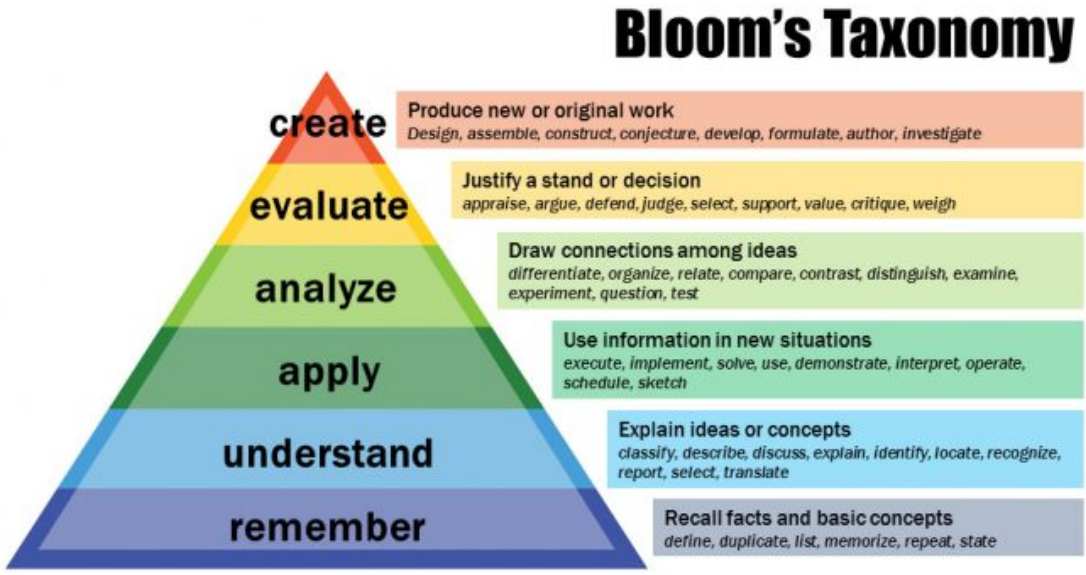



**Figure 3.1** - (Armstrong 2010:1) – The diagram indicates the educational taxonomy according to Bloom (1956).

Using Bloom's taxonomy combined with mindfulness Karunananda et al. (2016) created a pilot including 148 students from undergraduate and postgraduate programs at two universities in Sri Lanka. The study assessed cognitive abilities, including retention, thinking, out-of-the-box thinking, note-taking and mindfulness, at the end of a one-hour lecture. The results showed that students' self-reported mindfulness following a lecture was significantly lower than other cognitive abilities. These results suggest conducting a more formal controlled experiment to investigate the effect of mindfulness training in education.

According to Komagata and Komagata (2010), in all three levels of concentration, the baseline level, as it is called in the Buddhist tradition, is the 'monkey mind', which is awake

concentration. The second level is achieved by focusing on a certain activity, called “access concentration”. This level of the mind, although concentrated, can also have some distractions. And the third state, called “full absorption” (jhana in the Buddhist language Pali), is when the mind becomes completely focused and sensory perceptions, including pain and the sense of time, disappear. “Except for the one-pointedness on the focused object and possibly the sense of bliss, normal consciousness disappears” (Komagata and Komagata 2010:1).

Examples of Flow as mindfulness among researchers are Siegel’s (2010:321-322) description as “mindfulness while accomplishing something”, Cardaciotto’s (2005:35) Flow as “low present-moment awareness, high acceptance”; and Siegel’s (2007) Flow being non-self-consciously immersed in the sensations of an experience, that lacks mindful awareness. Bryant and Veroff (2007:22) state that the “intense [mindful] self-awareness disrupts the process of flow,” citing Nakamura and Csikszentmihalyi (2003) (in Komagata and Komagata 2010:1). Although the above statements show confusion between the connection of Flow and mindfulness, according to (Komagata and Komagata 2010:5) they are connected around the state of access concertation but are also different as Flow demonstrates some additional properties. “In particular, mindfulness cannot be sustained beyond access concentration and flow involves both mindfulness and the level of concentration beyond that of access concentration” (Komagata and Komagata 2010:5). Thus, if we embrace Komagata and Komagata’s (2010) view Flow exhibits more benefits than Mindfulness-Based Interventions (MBI) in pedagogical practices.

One example of Flow used in a classroom setting is Montarou (2014:3). He believed that his art students had three types of knowledge: the ‘declarative knowledge’ (knowledge that is cognitive, rational and learned), the ‘tacit knowledge’ (knowledge the students already have, but that needs to be freed by accessing a wider register of references through coordinating thought, body, gaze and hand) and the third form of knowledge which needs to be developed is ‘affective knowledge’ which cannot be measured and involves deeper, intuitive insights. A mindful state can access this third form of knowledge. Montarou’s ten-year observations of using Csikszentmihalyi’s Flow and general theories of mindfulness, such as Bloom (1956), Komagata and Komagata (2010), and Zhuang Zhou (aka Zhuangzi) (McLachlan 2019) suggest that by gaining awareness of flow and mindfulness, the students can learn how to achieve these states of consciousness. Therefore, he suggests that life drawing practice (which is the activity in which he tested the Flow state) should be integrated into the design curriculum (Montarou 2014:1-5).

Research to date regarding the use of Flow in music education has indicated that although over the last 25 years, there has been a positive and encouraged the use of Flow (Tan and Sin 2021), future research should be conducted according to (Hoo 2021:3-4) towards enabling greater student autonomy and ownership in the music learning process to facilitate Flow better.

### 3.3 MUSIC IN EDUCATION

“Plato believed that children should be taught music before anything else; in learning to pay attention to graceful rhythms and harmonies their whole consciousness would become ordered” (Csikszentmihalyi 1990:111).

Plato discusses the role of music in education in book 3 of The Republic during a conversation between Glaucon and Socrates. Socrates believes children should not be exposed to either “plaintive” or “relaxed” music because both will undermine their character. He, therefore, wanted to eliminate Ionian and Lydian harmonies from the curriculum as he believed that harmonies that should cultivate the “strains of necessity and the strains of freedom” inculcating courage and temperance in the young, were the Dorian and the Phrygian. Csikszentmihalyi comments that it is clear that Plato took music very seriously as he further quotes Socrates replying to Glaucon, (Plato, The Republic 1943 book 3, p. 401): “And therefore I said, Glaucon, musical training is a more potent instrument than any other, because rhythm and harmony find their way into the inward place of the soul, on which they mightily fasten, imparting grace, and making the soul of him who is rightly educated graceful” (Socrates in Csikszentmihalyi 1990:262).

Contrary to Plato’s beliefs, the last decade has seen the role of music in the curriculum gradually decline. Specifically, Angel-Alvarado (2020) and Aróstegui (2016) state the obvious global decline of music education in schools. According to Aróstegui, the four major reasons for the decline are: “(1) the model of curriculum supported in educational reforms; (2) an emphasis on standardized evaluation; (3) less resources available; and (4) a wrong approach on music advocacy” (2016:1).

Discussing the decline of music lessons in the curriculum, Csikszentmihalyi believes that the three basic skills of listening[12] that are "so important for improving the quality of life, are generally considered to be superfluous in the current educational climate" (1990:112). Csikszentmihalyi explains the difference between listening and hearing music by giving the example of how teenagers "who swing from one threat to their fragile evolving personhood to another in quick succession throughout the day, especially depend on the soothing patterns of sound to restore order in their consciousness" (1990:109). He continues that even when children are taught music, more emphasis is placed on their performance and less on the experience, which can be enhanced by participating in ensembles and choir (1990:112). Also, Csikszentmihalyi believes that Flow can be achieved with composing that can be facilitated with the sophisticated software that makes composition easy and allows one to listen immediately to the orchestration. "Learning to produce harmonious sounds is not only enjoyable, but like the mastery of any complex skill, it also helps strengthen the self" (Csikszentmihalyi 1990:112-113). Although music in schools is gradually declining in the curriculums worldwide, it is a lesson that many children enjoy and can provide opportunities for growth that are otherwise unavailable (Csikszentmihalyi 2014c:167). This research aims to create lessons that are infused with Visually Aided Music Pedagogy (VAMP) Csikszentmihalyi's ways of experiencing Flow, by Listening, Performing and Composing.

### 3.3.1 CYPRUS'S EDUCATION SYSTEM

"Education is key to the global integrated framework of sustainable development goals. Education is at the heart of our efforts both to adapt to change and to transform the world within which we live. A quality basic education is the necessary foundation for learning throughout life in a complex and rapidly changing world" Irina Bokova – Director General of UNESCO (UNESCO 2015: 3).

Bokova believes that education must be re-visioned in a changing world opening with her publication in UNESCO, a debate and a dialogue across the board to be both aspiration and

[12] Listening: as a sensory experience, as an analogic mode of experience and as an analytic mode of listening. Further analysis regarding the above modes of Listening is found in Chapter 5 when describing the taught lessons.

inspiration in new times of education. Such publications prompted the redesigning of Cyprus' educational approach, where the four pillars of education were introduced (UNESCO 2015:3).

Cyprus Ministry of Education forms its general education subjects that are compulsory from the age of seven until fifteen. The Gymnasium level – the middle school in which this research was conducted, includes the ages of twelve until fifteen. The next stage is the Lyceum - high school, where although not compulsory, the majority of the students continue their studies.

Regarding the music curriculum, based on the UNESCO (2015, 2016) framework of global education, the manifesto of music education, according to the official site of the Ministry of Education, is:
"The mission of the Music Sector is the continuous development and shaping of a modern, multifaceted Music Education, which through the acquaintance with the musical cultural heritage and the cultivation of musical skills aims:

- the timeless development of an audience and future creators of culture.
- linking education with other cultural institutions and the cultural life of the community.
- 21st-century skills development with an emphasis on creativity and innovation, self-development, interpersonal communication and collaboration, the critical use of digital technologies, citizenship, and social responsibility".

(Cyprus Ministry of Education: 2017 – Translated from Greek to English)

Each music teacher should tailor their lessons to the subject areas of the curriculum, but they have the freedom to design and adjust lessons based on their personal skills and musical background. This gives the music educator the freedom to create and deliver their lessons according to their individual strengths as long as they follow the general subject, aims and objectives guidelines.

Cyprus's Education System follows the four Pillars of Education given by UNESCO (2015):

1. "Learning to know – a broad general knowledge with the opportunity to work in depth on a small number of subjects.
2. Learning to do – to acquire not only occupational skills but also the competence to deal with many situations and to work in teams.
3. Learning to be – to develop one's personality and to be able to act with growing autonomy, judgment and personal responsibility.
4. Learning to live together – by developing an understanding of other people and an appreciation of interdependence. "

UNESCO (2015:39)

By using Visually Augmented Music Pedagogy, this research aims to further enhance the four pillars by applying the Flow theory:

1. Learning to know – By using Flow theory, a mindful environment should cultivate skills regarding concentration, which can be further explored in other aspects of the learning mechanism.
2. Learning to do – Teaching with a VAMP-infused curriculum should encourage Flow through music-making, visual scoring etc.
3. Learning to be - Important tool of teaching with Flow theory is to equip adolescence with skills of how to develop themselves. In music, by listening, playing, and giving feedback on their performance. Evaluate performances, self-observe, Improve and Grow.
4. Learning to live together. Music mimicking in a Flow environment can cultivate empathy and understanding in a group setting via a variety of music activities.

### 3.3.2 VARK (MML) – VISUAL, AUDITORY, READING AND KINAESTHETIC (MULTIMODAL LEARNING – MML) and VAMP (VISUALLY AUGENTED MUSIC PEDAGOGY)

Multimodal learning has been recently embraced in education as technological advances, coupled with considerations of the changing needs of today's learners, call for exploring new directions for multimodal teaching and learning (Bouchey et al. 2021:36). Such Multimodal Learning (MML) environments give a range of choices available to students according to their preferred mode of learning. These modes of learning assist according to the individual's way of absorbing knowledge: visually, auditory, reading and kinaesthetically (Nouri 2019, Phuong et al. 2017 and Sankey et al. 2010).

According to Lambert and Cuper (2008:273), the students' ongoing stimulation that is part of their electronically rich lives visibly changes their brain structures and affects the way they think. "As a result of the fast-paced, random-access, graphics-intensive world afforded by today's technologies, students' ability to reflect has been significantly affected". They believe that although not apparent how the students' thinking is changing due to their interaction with technologies, teachers should embrace new technologies as a way of teaching, motivating

and engaging students toward self-directed learning and reflection. “When the technology is already familiar and we employ these tools to challenge students to use critical skills, we reap the benefits of teaching today’s students in their familiar spaces” (Lambert and Cuper 2008:274). Vasiliou et al. (2014:346) suggest that Flow experience does exist in collaborative activities within a multimodal learning environment. Similarly, VAMP combines all aspects of multimodal learning as part of visual display in teaching music in a classroom setting.

Di Mitri et al. (2018:338) clarify the concept of multimodality used by the definition provided by Nigay and Coutaz (1993) whereas ‘multi’ refers to ‘more than one’ and ‘modal’ stands both for ‘modality’ and for ‘mode’. They continue that they use the term ‘modality’ as the type of communication channel used by two agents to convey and acquire information and the ‘mode’ as the state that determines the context in which the information is interpreted (Di Mitri et al 2018:338). They list four reasons why multimodality in learning is drawing so much attention:

1. Multimodality as a consolidated theory – as subject to investigation in the last two decades in fields such as functional linguistics, conversational analysis, and social semiotics (Jewitt et al. 2016).

2. Multimodal tracking - technological developments such as the Internet of Things (IoT)[13], wearable sensors, cloud data storage, and increased computational power for processing and analysing big data sets.

3. Need for modelling across physical and digital worlds. A general call for multimodality in computer-supported collaborative learning and learning with interactive surfaces communities (Schneider and Blikstein, 2015 in Di Mitri et al 2018:339).

4. Multimodal approach aligned with the nature of human communication. According to Calvo et al. (2015) the use of multiple modalities in human communication is redundant and complementary (in Di Mitri et al 2018:339). “Humans communicate their intentions and emotions using multiple modalities such as facial expression, voice intonation, or body

[13] The term “Internet of Things” (IoT) was first used by British technology pioneer Kevin Ashton in a presentation he did at Procter and Gamble (P&G) in 1999. Ashton described a system in which objects in the physical world could be connected to the Internet by sensors (Ashton 2009). Now the term has been used freely as a network of physical objects connected with, sensors, software, and other technologies as a way of connecting and exchanging data over the internet.

movements. When analysing incomplete data sets, especially those having missing data (e.g., due to hardware failures), the information overlap across multiple modalities is convenient because it allows their overall meaning to be preserved" (Bosch et al. 2015 in Di Mitri et al. 2018:339).

The fourth point demonstrates the psychological aspect of multimodal learning and raises the problem regarding the analysis of multimodal learning data (MMLA - Multimodal Learning Analytics) (Blikstein 2013). Di Mitri et al. agree with Kim et al. (2011) that the problem of measuring multimodal learning systems in a classroom setting is that although some semantic interpretations of the multimodal data can be traced with sensors, some of the psychological and learning-related constructs, such as emotions, beliefs, motivation, cognition, or learning outcomes can remain invisible for educators and researchers (Di Mitri et al. 2018:340). This is demonstrated with a picture of an iceberg that shows above the waterline the Behaviour Context of the Data and underneath the waterline the 'unseen' Learning Labels of Emotions, Motivation, Cognition and Beliefs. "The observability line: The multimodal data can capture only the observable attributes" – (Di Mitri et al. 2018:340) (Figure 3.2).

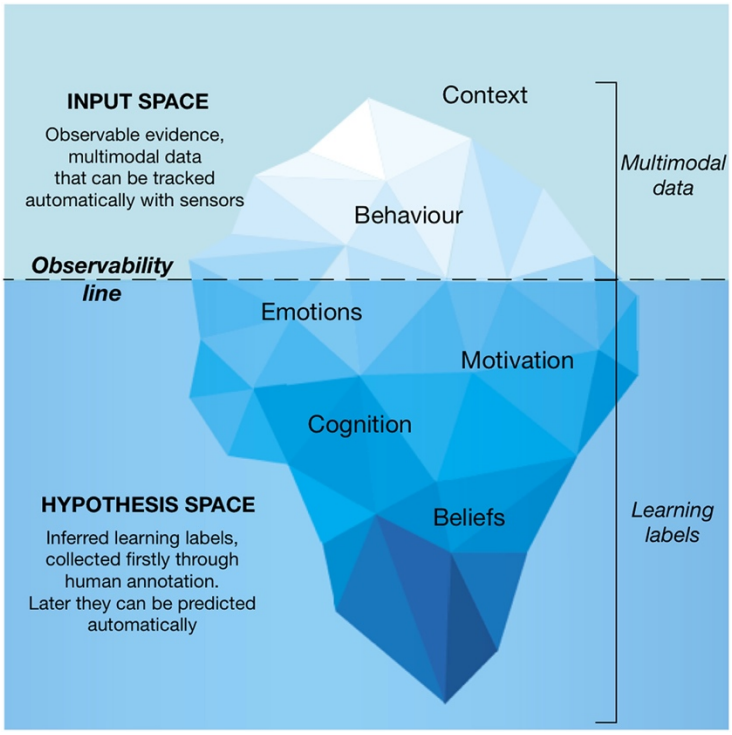



**Figure 3.2** - Di Mitri et al. (2018:340) – The iceberg diagram aims to illustrate how underlying emotions, motivations, cognition, and beliefs influence observed behaviour.

The above fourth point, as listed by Di Mitri et al. (2018), the MML is faced with the psychological interpretation of the MML analysis of data. The use of VAMP in the classroom setting aims to combine the general MML aspects of music education in a fusion of technology, singing, moving, dancing, reading, drawing and interaction by creating a general visual environment for the student's experience in the classroom learning.

Visual music is a primal need for expression, and it should be regarded as old as the discovery of fire and dancing shadows on cave walls (Evans 2005:11). From the public display of Caste's Ocular Harpsichord in the 18th Century to Thomas Wilfred's early electrical instrument that created clouds and streams of continuous colour called 'Clavilux' in the 1920s and later with the development of cinema, displaying music visually is not a new concept (Evas 2005:11). Bergantini (2019:1), like Kandinsky's concept of holistic art forms, believes that the relation between art, science and digital culture should be approached from the case of synaesthesia as a way of simulating artistic works and experiences.

## 3.4 FOUNDATION OF VAMP BASED ON KANDINSKY

### 3.4.1 KANDINSKY AND VISUAL ART / MUSIC

VAMP consists of a blend of activities that aim to adopt Kandinsky's *Transcendence* as mindfulness through a holistic visual experience. The activities include multimedia applications, drawings, viewing, mimicking, composing and performing. Each activity is adjusted according to the taught subject that is part of the overall curriculum. The variety of the activities depends on the morphology of each lesson. Although activities might include movement and technology that indirectly recall visual displays, I will argue that the experience within the classroom acts as a visual display to both a performer and the audience. Kandinsky's depiction of visual art and music as theory will underpin the construction of the VAMP-infused lessons.

"A painter, who finds no satisfaction in mere representation, however artistic, in his longing to express his inner life, cannot but envy the ease with which music, the most non-material of the arts today, achieves this end. He naturally seeks to apply the methods of music to his art.

And from this results that modern desire for rhythm in painting, for mathematical, abstract construction, for repeated notes of colour, for setting colour in motion" Kandinsky (1914:19).

Kandinsky's writings will be discussed as a way of understanding the 'drawing', 'listening', 'experiencing' and 'decoding' of music and visual art. His first book, *Concerning the Spiritual in Art* (1914), sets the tone and the connection of colours with shapes and instruments, whilst his second book, *Point and Line to Plane* (1926), approaches a more scientific interpretation of music and visuals, as he delves more in detail on how to interpret points and lines and plane in art and music as a form and composition. The interconnection between various arts and their cross-reference into sound and vision are based on Kandinsky's conception of *Transcendence,* as seen in the first chapter of this research. Kandinsky views art, such as literature, music and painting, are the most sensitive spheres for the *spiritual evolution* to make itself felt (1914:14). Experiencing art holistically also fits with the concept of MML modes as discussed above.

For Kandinsky "every man who steeps himself in the *spiritual possibilities* of his art is a valuable helper in the building of the spiritual pyramid which will some day reach to heaven" (1914:20 emphasis added). Kandinsky's use of the words such as *Spiritual possibilities* is describing the emotional engagement and growth that art (in general) can create and cultivate when appreciated and experienced. He also claims that: "The work of Art mirror itself upon the surface of our consciousness" (1926:17). Thus, *Spirituality* here can be synonymous with how Csikszentmihalyi (1990) uses the word *Consciousness* when describing the stages of achieving experiencing *Flow* (1990:49-66).

Kandinsky approaches art holistically as the most sensitive sphere of spiritual evolution (1914:14). For example, he describes an object in Maurice Maeterlinck's poems (1862-1949) as it dematerialises, and its place is felt immediately in the *heart* with corresponding vibration[14] (1914:15). The borrowing of one art from another according to Kandinsky can only truly be successful when one art form learns first how another uses its methods. What should an artist, however, always have in mind is that the power of the true application of every method, is its

[14] Kandinsky talks a lot about vibration. He talks about *colour* vibration, *inner* vibration of the human soul and *sound* vibration. It is unclear to me whether he is literally talking about attempting to measure the actual vibration and its effects on the human body, or if he is poetically using the work vibration as the 'tingling sensation' of people's feelings when approaching and experiencing various works of art.

development (1914:20). Kandinsky's work also connects music and painting by finding ways of interpreting colour and shapes into sounds and instruments.

For Kandinsky, every artist's inner need is built up by three mystical elements: 1. as a creator, the need for expression - elements of the personality. 2. as a child of his age is impelled to express the spirit of his age - elements of style - "dictated by the period and particular country to which the artist belongs (it is doubtful how long the latter distinction will continue to exist[15])". 3. as a servant of art, must help the cause of art (this is the element of pure artistry, which is constant in all ages and among all nationalities) (1914:33). At the same time according to Kandinsky, every artist has three responsibilities to non-artists: 1. He must repay his talent; 2. His deeds, feelings, and thoughts, like those of every man, create a spiritual atmosphere which is either pure or poisonous; 3. These deeds and thoughts are materials of his creations, which themselves exercise influence on the spiritual atmosphere (1914:54-55). By infusing VAMP into the curriculum, the research aims to act on the above responsibilities of students as artists listed by Kandinsky in a classroom setting.

Regarding specifically the music, according to Kandinsky, all music serves no practical use except for march and dance music. Despite this, it has a well-developed theory and is constantly evolving (1926:18). Kandinsky references Wagner's leitmotivs as an attempt to give personality to the characters beyond the theatrical expedients and thus create a spiritual atmosphere which precedes the hero (1914:16). He also references Debussy's spiritual impression of nature in his music that despite his similarity with the Impressionist painters is "deeply concerned with spiritual harmony, for in his work one hears the suffering and tortured nerves of the present time" (1914:16). The most celebrated, however, of all the musicians is, according to Kandinsky, Schoenberg who managed to achieve the freedom of an unfettered art. "Every age achieves a certain measure of this freedom, but beyond the boundaries of its freedom the mightiest genius can never go. But the measure of freedom of each age must be constantly enlarged" (1914:17). For Kandinsky Schoenberg not only achieves this freedom and spiritual harmony but also his music leads us into a realm where musical experience is not only a matter for ear but for the soul alone - "and from this point begins the music of the future" (1914:17). The freedom of expression *beyond boundaries* and the freedom of *each age* the music has been created and expressed, along with the Kandinsky's suggestions that *musical experience is not only a matter for ear but for the soul alone* constructs the theoretical concept of VAMP-infused lessons.

[15] Here Kandinsky rightly predicts that in the current technological advances - where the internet connects the globe - geographically speaking country restrictions do not exist.

“At the end of the day music is a visual art and all we need to love it to truly form a meaningful deep emotional attachment is to Get the Picture” Hunter (2014:10’).

### 3.4.2 VIEWING – VISUAL STIMULATION

#### COLOUR

"Colour is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching one key or another, to cause vibrations in the soul” Kandinsky (1914:25).

Kandinsky discusses shades of colour, and sound of that matter, as means of awakening emotions that words to describe them can only be hints or mere suggestions. “In this impossibility of expressing colour in words with the consequent need for some other mode of expression lies the opportunity of the art of the future” (1914:41-42).

Kandinsky sees colour as a visual expression of sound, and he even associates it with specific instruments. He gives an example the “keen lemon-yellow hurts the eye in time as a prolonged shrill trumpet-note the ear, and the gazer turns away to seek relief in blue or green” (1914:24). He continues that in music, a light blue is like a flute, a darker blue a cello; a still darker a double bass and the darkest blue an organ (1914:38). The absolute green is represented by “the placid middle notes of a violin” (1914:39). Furthermore, light warm red is similar in texture and appeal, to medium yellow that gives a feeling of strength, vigour, determination, and triumph that can be associated with the strong, harsh, and ringing sound of trumpets (1914:40). He even associates colour with taste as keen yellow can look sour because it recalls the taste of a lemon (1914:24). For Kandinsky the effect of colours can be far deeper and intensely moving to a sensitive soul as they produce a corresponding spiritual vibration. For instance, the colour red can cause a sensation analogous to that of a flame, a warm red can provoke excitement, and another shade of red might cause disgust if it is associated with running blood. For Kandinsky, “colour awakens corresponding physical sensation, which undoubtedly works up the soul” (1914:24).

According to Kandinsky black and white are considered “colourless” colours, like his analysis of straight lines, in the same matter, are ‘silent lines’ (1926:63). Black is considered silence, “is something burnt out, like the ashes of a funeral pyre, something motionless like a corpse” (1914:39). White, on the other hand, symbolises joy and purity. Their mixture (composed of two inactive colours) creates grey that is silent and motionless. A grey, however, that is produced by a mixture of green and red has “a spiritual blend of passivity and glowing warmth” (1914:39). In terms of temperature, he finds white more apt to warm whilst absolute black unquestionable cold (1926:63).

Birren (1978) also explores the important aspects of light and colour and their reactions to living things. He quotes Kandinsky and Wanger in their use of colour in their art. He believes that “There are strong emotional relationships between color and music, and many have written about it. While any physical relationship (frequency of vibrations) can be doubted, a feeling of harmony between music and color is quite universal. Wagner wrote about it as a composer, and Kandinsky wrote about it as an artist—among many (Birren 1978:49).

Birren (1978) also makes note to Cecil Stokes’ Auroratone[16] films. According to Rubing and Katz (1946) the Auroratone films were used as psychotherapeutic as their study showed that manic-depressive patients that refused to have medical aid, the use of Auroratone films managed to make them more accessible to treatment (Birren 1978:50).

**FORM**

In paintings, there are two main components, according to Kandinsky: *colour* and *form*. Colour can also be correlated to specific shapes. For instance, a yellow triangle, a blue circle, a green square, a green triangle, a yellow circle, and a blue square. For Kandinsky, all the above are different and have different spiritual values (1914:29). Sharp forms, such as a triangle, require sharp colours, such as yellow and soft, deep colours, such as blue, can be associated with round forms, such as a circle. This is not to say that unsuitable combinations of form and colour are necessarily discordant, but manipulation, according to the author, might show the way to free possibilities of harmony (1914:29).

[16] “Abstract mobile patterns in full color covered a broad screen to the accompaniment of music” (Birren 1978:49).

Although *form* can be plainly explained as the mere line between surfaces of colour, for Kandinsky, *Form* is also the *outward expression* of one's *inner meaning.* Furthermore, he gives as an example the piano, in which the artist's hand playing the keys (i.e. form) can result in music that "affects the human soul" and thus the *inner need* (1914:29).

*"So it is evident that form-harmony music rest only on a corresponding vibration of the human soul; and this is a second guiding principle of the inner need"* Kandinsky (1914:29).

There are two divisions of the composition according to Kandinsky: 1. Simple composition that he calls *Melodic;* 2. Complex composition, consisting of various forms of what he calls *Symphonic* (1914:56). "Between these two divisions lie various transitional forms, in which the melodic principle predominates. The history of the development is closely parallel to that of music" (1914:56). As an example of melodic composition, he describes primitive geometrical forms or an arrangement of simple lines, which help toward a common motion. He even describes such forms created with the musical term *fermata*[17]*.* "Each form which goes to make up the composition has a simple inner value, which has in its turn a melody. For this reason, I call the composition melodic" (Kandinsky 1914:15).

For Kandinsky, the paintings of Cézanne' (1839-1906) and Holder's (1853-1918) made the melodic composition win a new life into what he calls *rhythmic.* He explains that: "in music and nature each manifestation has a rhythm of its own, so also in painting. In nature, this rhythm is often not clear to use, because its purpose is not clear to us. We then speak of it as unrhythmic. So, the terms rhythmic and unrhythmic are purely conventional, as also are harmony and discord, which have no actual existence" (1914:57). Kandinsky gives as an example of plain melodic construction with a plain rhythm Cézanne's series of paintings of entitled *Bathing* (Figure 3.3).

[17] This music symbol when placed above a note means to hold the note longer than its full length.

**Figure 3.3** - Paul Cézanne's *The Bathers* (1898-1905) – For Kandinsky, such painting gives an example of a plain melodic construction with a plain rhythm.

Examples of complex rhythmic composition with symphonic flavour Kandinsky references as examples of numerous pictures of woodcuts of the past, works of old German masters, the Persians of the Japanese and Russian icons, broadsides, and many of Holder's pictures (Figure 3.4).

**Figure 3.4** – Ferdinand Holder's *Woodcutter* (1910) - According to Kandinsky, this painting exemplifies a simple melodic structure with a plain rhythm.

For Kandinsky, nearly all of his examples of *symphonic* compositions are not closely related to the *melodic* ones. “This means that fundamentally there is a composition founded on rest and balance. The mind thinks at once of the choral compositions, of Mozart and Beethoven. All these works have a solemn and regal architect of a Gothic cathedral; they belong to the transition period” (1914:57). Kandinsky gives examples of new symphonic compositions in which the melodic element plays a subordinate part in the reproduction of his own paintings (Figures 3.5, 3.6 and 3.7).


Kandinsky: Impression No. 4, "Moscow" (1911)

**Figure 3.5** – Vassily Kandinsky’s Impression No.4, *Moscow* (1911) – Kandinsky’s interpretation of symphonic compositions with a melodic element.

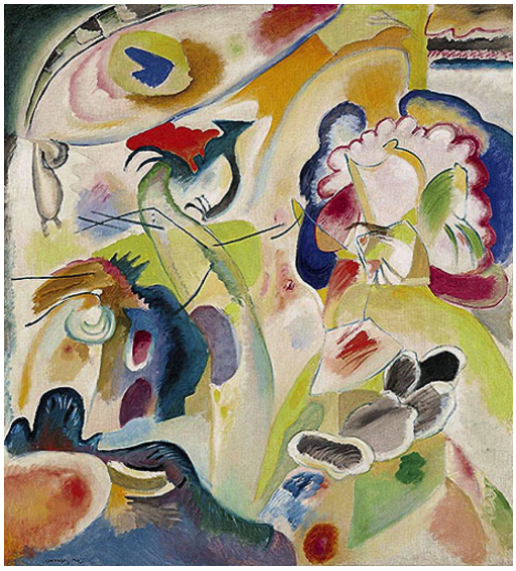


**Figure 3.6** - Vassily Kandinsky's *Improvisation No.29* (1912) - Kandinsky's perspective on symphonic compositions that incorporate a melodic aspect.

**Figure 3.7** - Vassily Kandinsky's Composition *No.2* (1910) - Kandinsky interpreted symphonic compositions that included a melodic element.

According to Kandinsky, this can be achieved by:

1. A direct impression of outward nature, expressed in purely artistic form in the "Impression".
2. A largely unconscious, spontaneous expression of inner character, the non-material nature in the "Improvisation".
3. An expression of a slowly formed inner feeling in the "Composition" (1914:57).

In his second book, Kandinsky analyses in more detail the correlation between shapes in composition and sound. For example, in the theory of composition, he describes the shape of

a square with a cross (Figure 3.8) as consisting of twelve sounds altogether - a sound for each line (1926:66).

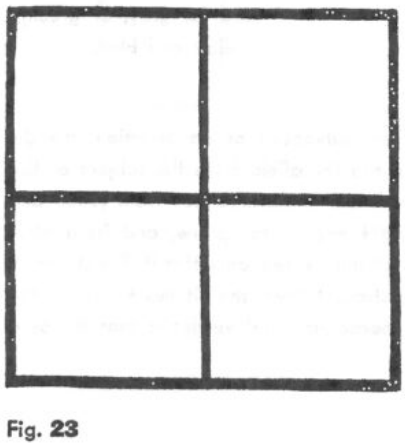


Fig. 23

**Figure 3.8** – Image taken from Kandinsky's book *Point and Line to Plane* (1926:66) – Visual representation according to Kandinsky of the above shapes as consisting of twelve sounds at ones.

Regarding the notation Kandinsky observes that *music notation* "is nothing other than various combinations of point and line" (1926:99). He gives as an example of a score 'translated' into points, Beethoven's 5th Symphony (Figure 3.9).

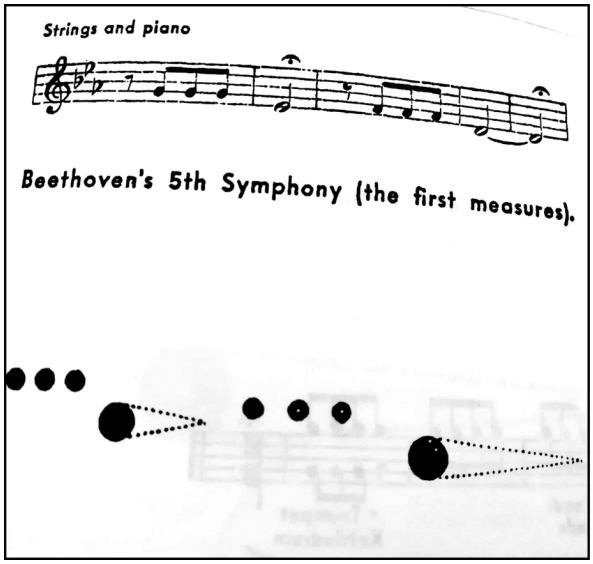



**Figure 3.9** – Kandinsky's visual interpretation of Beethoven's 5th Symphony in shapes in his book *Point and Line to Plane* (1926:43).

When describing individual instruments, Kandinsky describes the thickness of the line effects, such as the pitch. For instance, “a very fine line represents the sound produced by the violin, flute, piccolo; a somewhat thicker line represents the tone of the viola, clarinet; and the lines become more broad via the deep-toned instruments, finally culminating in the broadest line representing the deepest tones produced by the bass-viol or the tuba” (Kandinsky 1926:98).

### 3.4.3 NOTATION SYSTEMS

Music notation is not only the mere representation of music on paper but also a system that synchronises multiple players performing music together. Boehm (2007:58) mentions seven functions of Western music notation such as communication, control, preservation, artistic value, ownership, synchronisation, and study. Boehm also observes that musical notation also has its own *artistic value,* and it can also be aesthetically pleasing design. For instance, the treble clef design and examples of notation in Western music “could convey with music and art a deeper meaning, in a graphical manner as well as musical one” (Boehm 2007:58).

For Kandinsky, the element of time in the point is almost eliminated, which, in special cases of composition, makes the point inevitable. “Its use here corresponds to the sharp blow on a kettle-drum or a triangle in music, or to the short taps of the woodpecker in nature” (1926:34). Kandinsky recognises the difficulties in explaining the concept of time in painting by making a clear and justifiable division by correlating:
“Painting - space (plane)
music - time” (1926:34).

It is evident how many notation systems of the 20th century, for example, Haubenstock-Ramati (1919-1994) and Schnebel (1930-2018), show remarkable similarities with Kandinsky’s paintings (Figures 3.10, 3.11 and 3.12).

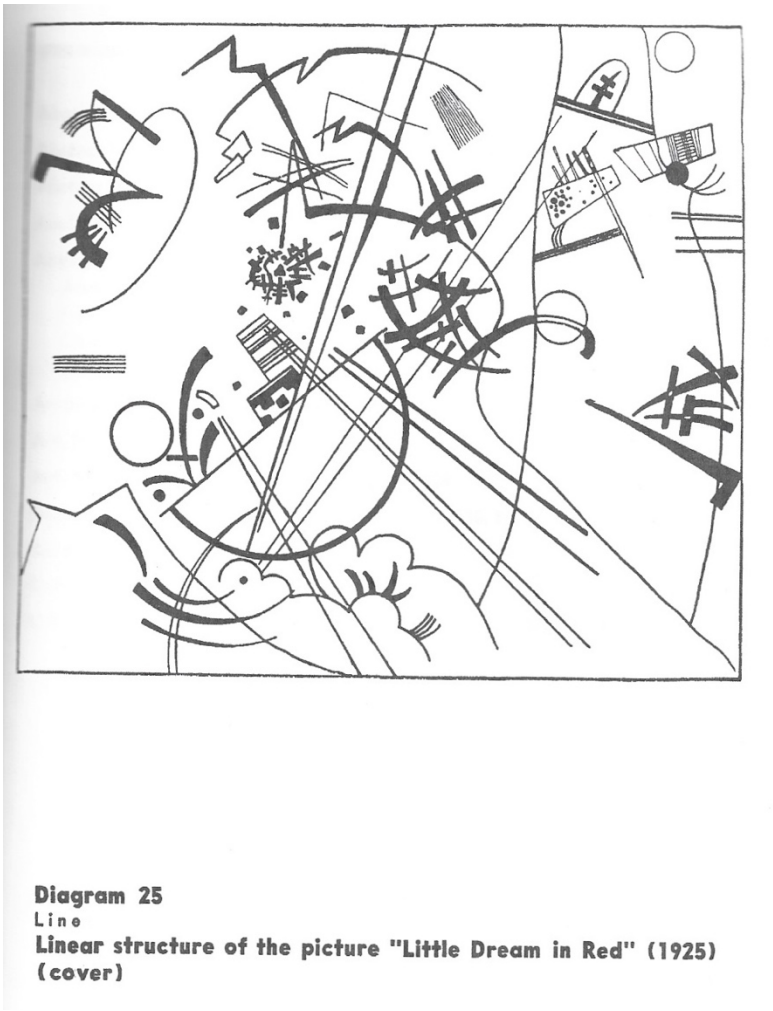


Diagram 25
Line
Linear structure of the picture "Little Dream in Red" (1925)
(cover)

**Figure 3.10** - Kandinsky's *Little Dream in Red* (1925) found in Kandinsky's book *Point and Line to Plane* (1926:147) as an illustration example in black-and-white in order to illustrate the painting's linear construction.

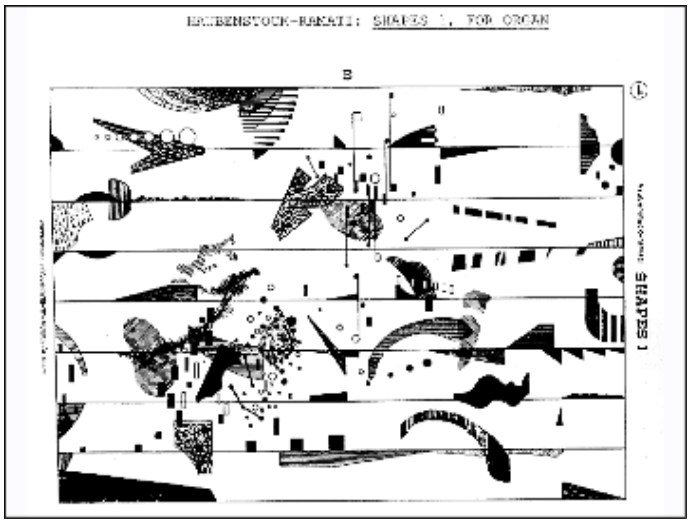



**Figure 3.11** - Haubenstock-Ramati's score for *Shapes1 For Organ* (1973).

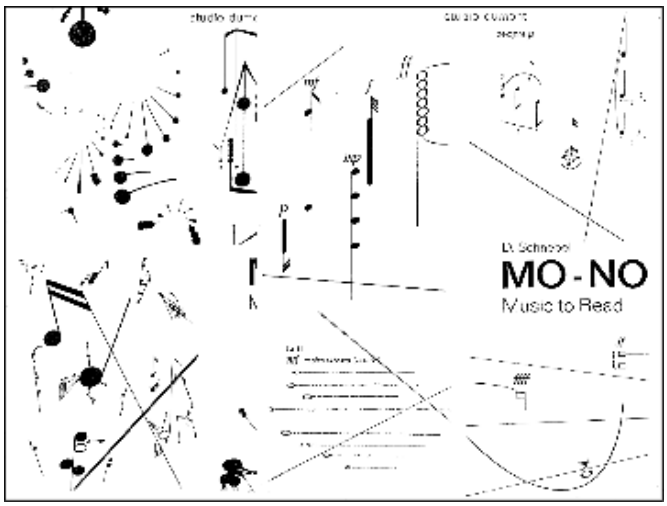



**Figure 3.12** - Schnebel 's score for *Mo-No Music to Read* (1969).

Outside Kandinsky's theoretical and practical use of visual music, more artists such as Klee have incorporated in their drawings, music as an artistic expression (Figures 3.13 and 3.14).

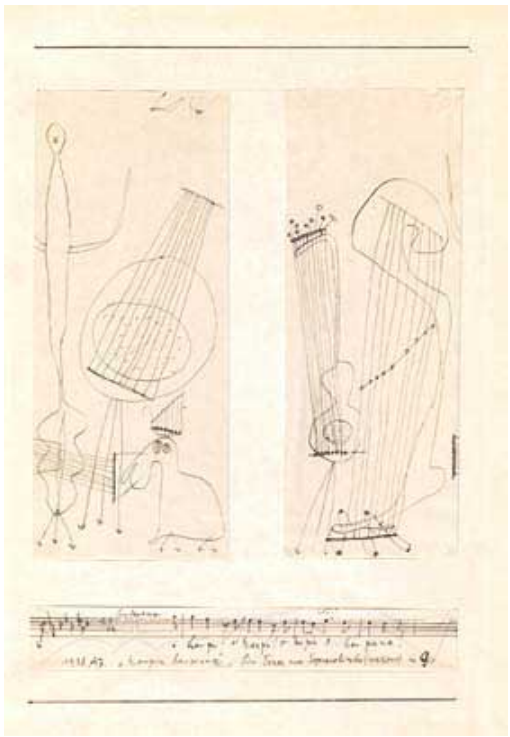


**Figure 3.13** - Paul Klees' *Harpia harpiana* (1938) (in Düchting 2018:90).

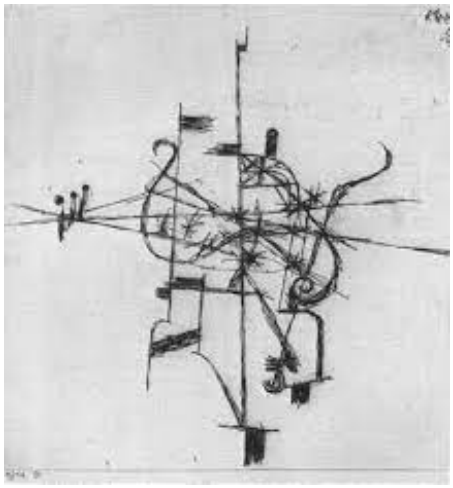


**Figure 3.14** – Paul Klee's *Drawing (Instrument for the New Music)* (1994) (in Düchting (2018:11).

Even some of Klees's (1961) lecture notes look like music-scoring software. He analyses an "Example from a three-part passage by Johann Sebastian Bach" (1961:285) that looks like music-scoring software (Figure 3.15 and 3.16).

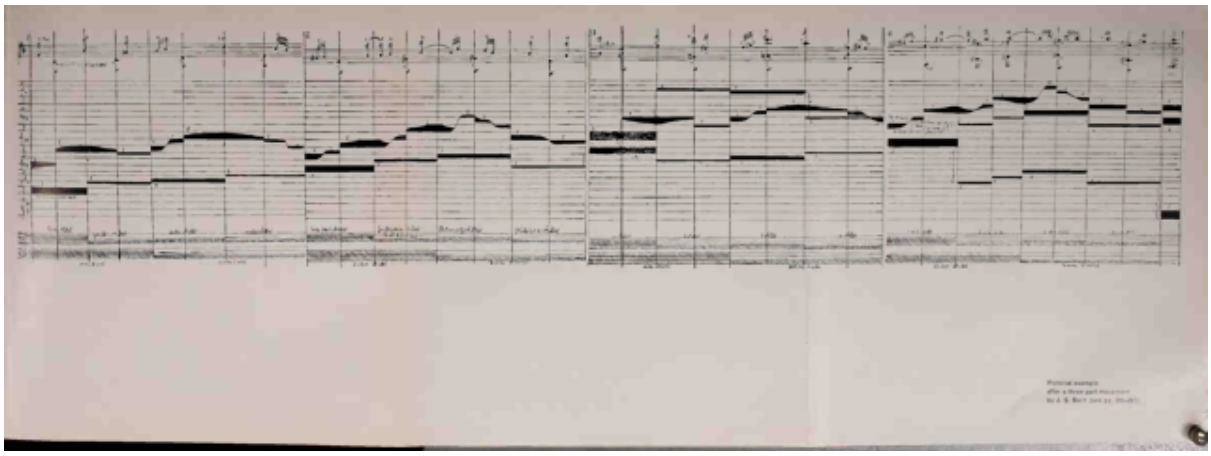


**Figure 3.15** - Klee's lecture note on explaining an "Example from a three-part passage by Johann Sebastian Bach" (1961:285) (in Klee 1961:286).

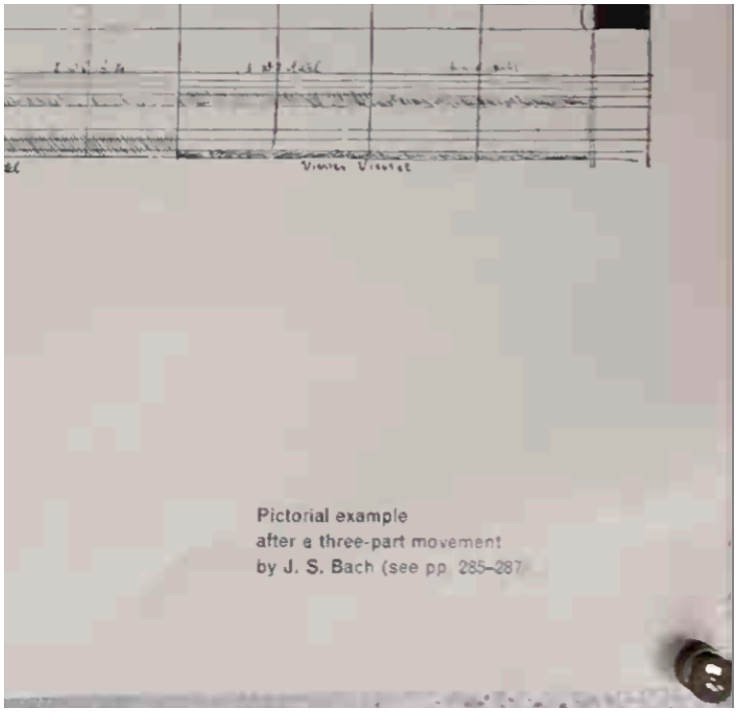



**Figure 3.16** - Klee's note at the bottom of the page "Pictional example after a three-part movement by J.S. Bach (see pp285-287)" (in Klee 1961:286).

The need for a notation system is not only to show an artistic expression of music in visual language but also as a way to claim authentication of the work, a way of reproducing the piece of music and to mark time and expression. Throughout the history of music, of course, the most used notation system is the five-lined musical stave with the various clefs, accidentals, and time signatures. The five-lined musical stave is used as the primary notation system in education, however as a way of expressing one's creativity and the promotion of VAMP lessons, students are encouraged to create their own personal notation system that would assist them better in understanding a specific taught lesson and reaching the Flow state. More detailed examples of taught lessons are analysed in Chapter 5.

In a yearlong study with kindergarten kids regarding their understanding and interpretation of invented notation, Barrett (2004) found that kids' use of notes, drawings, numbers, and symbols to interpret music do not solely function as a denotive system that refers to and communicates information about music but also as a way of organising thinking. He refers to kids' music notation as a window into their musical thinking and perception as the conception that not only benefits their music understanding but also improves their communication skills (2004:19) The research involved children aged four and five in two kindergartens twenty kids in each, forty in total. Daily activity was added every day called "music corner" with added

activities such as painting, water/equipment play, and working with the teacher or aide in kinaesthetic, linguistic and numeracy development. In these activities, children were encouraged to sing known songs and to make their own music. The task was to “find a way of putting their music down on paper” so they could remember it but also for another person to be able to play it. “The dual instruction was required as some children inevitably responded that they would remember the music without the need for notation” (Barrett 2004:21).

Barrett (2004) refers to a case study of a girl aged four and a half called Brittany, who also started the same year afternoon violin lessons. Brittany had some knowledge of Rhythmic Solfege, letters, and numbers. In her representation of the known song *Twinkle Twinkle Little Star,* she mixed symbols with words and drew a star. This mixed method in inventing notation in various known or made-up songs demonstrated, according to Barrette, that, for Brittany “the notational event appears to operate as both a formal problem-solving space in which she explores her musical and notational intentions and as a referential- communicative tool. This suggests that invented notations do not function solely as a denotive system that refers to and communicates information about music. Such a view does not account for the complex inter-relations between children's perceptual and conceptual processes when generating invented notations” (Barrette 2004:25). This is on par with Gauvain’s notion of the use of symbol systems that not only represent, manipulate, and communicate ideas, but most importantly they transform human thinking (2001:128).

I believe that such use of invented and conventional representation of music in adolescence can also demonstrate an understanding of musical knowledge and encourage musical thinking in communicating, describing, expressing, and organising music expression and knowledge. Using music notation as the primary music language when learning an instrument or in classroom settings for the general education system is the subject of pedagogy studies. McPherson and Gabrielsson (2002) argue that emphasising notation skills early without the opportunity to associate sound before sign might restrict musical fluency long-term. In the adolescent classroom setting, however, where musical knowledge is varied on many levels, a combination of both traditional and ‘personal’ notation systems is encouraged. Firstly, as a way of demonstrating musical knowledge and expression but also as a way of experiencing music holistically.

### 3.4.4 MULTIMEDIA APPLICATIONS

Since the 18th century, technological contractions of light and colour keyboards were invented with the aim of providing a visual spectacle to accompany the sound (Moritz 1997). The term *multimedia* (possibly first spelt *multi-media*) was attributed to Bobb Golsteinn as a description of the show 'LightWorks at L'Oursin,' which integrated music, lights, and film among other mediums (Albarino, 1966 in Cohen et al. 2013:3). Other definitions of the term *multimedia* are Maras' (1996) - amongst his ten different definitions of the term - as a *hybrid definition* of mixed media as performance art that includes installations of films, videos, actors, and other elements and *megamedium*, a combination of different media into an integrated, unified, or colourised form (Cohen et al. 2013:3). Another definition comes from the film theorist Monaco (1999) using in academia the term 'mediums' as a super-intensive plural (Cohen et al. 2013:3).

According to Cohen et al. (2013), the term *multimedia* implies a technological combination of sensory art forms and combinations of music and visual patterns (2013:1). They use the term 'multimedia' to commonly refer to audio-visual presentations in film, television, video, interactive gaming, computer interfaces, and on the Internet. Such multimedia forms are typically created collaboratively by artists and technicians. According to Cohen et al., although the spectator-listeners typically take for granted the role played by music and audio, the role of music and sound has attracted the attention of many researchers across numerous academic disciplines when it comes to the whole multimedia experience (2013:1). Boltz (2013) lists such academic researchers that argued the importance of music and sound upon the movie-viewing experience by "accentuating or attenuating the emotional impact of a scene (Bolivar et al. 1994), influencing the types of inferences about characters' motivations and actions (Boltz 2001; Bullerjahn and Güldenring, 1994), directing attention toward some information and away from others, and thereby influencing how much is remembered, what is remembered, and what is confabulated (Boltz, 2001, 2004; Boltz et al. 1991)" (2013:217).

The research uses the term multimedia, according to Cohen et al. (2013), as a technological combination of sensory art forms and combinations of music and visual patterns. Chapter 5 will explore the use of mobile devices to administer multimedia. The effect of using multimedia applications with regard to the VAMP-infused lessons aims to enhance the music lesson visually as well as by increasing the level of Listening.

According to Chion (1994), listening terminology (to moving images, such as film) is divided into three categories: Reduced listening, Causal listening, and Sematic listening.

"*Reduced* listening emphasizes the sound itself and the source of the meaning of the audio. *Causal* listening refers to listening to a sound to be able to identify its cause, while *semantic* listening focuses on code systems in audio (i.e., spoken language) that symbolize ideas, actions, or things" Chion (1994: 244). He further gives, as an example, the music in a video game, where the *reduced listening* would emphasise the mood, the *causal listening* would highlight the action, and the *sematic listening* would focus on the lyrical or genre-related connotations of the audio, such as the type of music – i.e., hip-hop vs symphonic classical (Chion 1994: 244).

Boltz (2013:231) believes that regardless of the film genre, the unified representation of audiovisual information provides a framework to guide the perception, interpretation and remembering of the event of interest. Ning's and Luo's (2021) research on the use of multimedia and computer technology in music education showed that it has improved teaching efficiency and student satisfaction.

Using a blend of multimedia applications in the VAMP-infused lessons, the aim is not only to access the information but also to create a visual environment where both students and teachers can improve their efficiency and satisfaction and facilitate a Flow environment.

**CONCLUSION CHAPTER 3**

Scholars, educators, and philosophers have studied the topic of education throughout history. It encompasses various objectives and perspectives, depending on culture, social and individual contexts. Different methods and approaches have been created and modified throughout the years in order to be on par with the cultural and psychological demands of adolescents. Multimodal educational disciplines, as well as mindfulness-based programs, are emerging fields in education that have gained popularity in recent years.

Since Plato, music education has played a vital role in the holistic development of individuals, fostering creativity (Csikszentmihalyi 1996), cognitive abilities (Schlaug et al. 2006), emotional expression (MacDonald 2013) and social skills (Hallam 2010). Despite the benefits of music education, its role is constantly being eliminated from schools, a trend I have personally witnessed in Cyprus since the beginning of my teaching career. This trend is also being seen in educational systems worldwide (Angel-Alvarado 2020, Aróstegui 2016, Barrett 2004). It is

hoped that applying a VAMP-infused curriculum in music education may encourage further research on music's developmental benefits in adolescents.

## CHAPTER 4 – METHODOLOGY

### INTRODUCTION

This chapter presents a comprehensive overview of the methodology employed in this study, which aims to explore the creation of flow in adolescence within the context of music education in a classroom setting. The research adopts a mixed methods approach, combining qualitative and quantitative methods to provide a holistic understanding of Flow experiences and their impact on educational outcomes.

Mixed methods research is an increasingly popular approach in social sciences, allowing researchers to draw upon the strengths of both qualitative and quantitative methodologies. In this study, qualitative methods, such as Grounded Theory, will be utilised to explore the subjective experiences of adolescents in music classroom settings. Grounded Theory is a systematic and rigorous approach to data analysis, which involves iterative coding, categorisation, and theory development based on the data. Also, quantitative methods will be employed to measure and analyse Flow experiences. Various measuring methods will be discussed, including the Experience Sampling Method (ESM – Mayers 1978), which captures real-time experiences and emotions through repeated daily sampling. Additionally, established scales such as the Short Flow Scale (Martin and Jackson, 2008), Flow Kurzskala Scale (FKS Rheinberg et al., 2003), Dispositional Flow Scale (DFS Jackson et al., 1998), Flow State Scale (FSS Jackson and Marsh, 1996) along with (FSS2 Jackson et al., 2008), and Educational Flow (EduFlow Heutte et al., 2016) will be employed to assess which one is preferable for this study.

The VAMP approach was applied in three of my five classes to test and measurement of Flow states using an EduFlow questionnaire. The control groups (B1 and B3) followed the curriculum, and the rest (B2, B4 and B5) applied the VAMP-infused teaching mindset by injecting the visual classroom experience in any way possible. Boruch (1997) along with Shavelson and Towne (2002) suggested planning and conducting experiments that involved control groups in an educational setting. This research prefers this method as it gives measurable scientific results that can be compared to my teacher's notes and observations.

## 4.1 MIXED METHODS RESEARCH, QUALITATIVE AND QUANTITATIVE METHODS IN MUSIC EDUCATION

This study explores the potential for Flow experiences when teaching music visually in a Visually Augmented Music Pedagogy (VAMP). The methodology includes both qualitative and quantitative research, such as collecting questionnaire data as well as teacher's notes.

Creswell and Clark (2017) believe that combining quantitative and qualitative approaches provides a better understanding of research problems than either approach alone. Fitzpatrick (2020:170) believes that although many studies in music education research utilise singular qualitative or quantitative methods, researchers have increasingly used a combination of methodological approaches to answer complex research questions. The reason for such a combination is, according to Fitzpatrick, the complex human endeavour between music teaching and learning (2020:170). According to Creswell and Guetterman (2019:560), the key characteristics of mixed methods designs are to:

- Collect and analyse qualitative and quantitative data.
- Use rigorous methods.
- Integrate the quantitative and qualitative data through margining, connecting, building, and embedding.
- Use a specific mixed methods design.
- Frame the study (often) within theory and philosophy.
- Give priority to qualitative or quantitative data or both.
- Consider the sequence of qualitative and quantitative phases.
- Diagram the procedures.

Fitzpatrick (2020:173) lists mixed methods publications in the field of music education, such as Austin and Berg (2006), Bazan (2011), Fitzpatrick (2011) and Austin and Berg (2006). The research conducted between 2004 and 2010 illustrates the numerous variations in mixed methods over a six-year period (Figure 4.1).

**Table 10.1 Early U.S.-Based Mixed Methods Dissertations in the Field of Music Education (to 2010)**

| | | | |
|---|---|---|---|
| 2010 | Baer, J. | Walden University | The relationship of multiple intelligence instruction to sight singing achievement of middle school choral students |
| 2010 | Gavin, R. B. | Florida State University | An exploration of potential factors affecting persistence to degree completion in undergraduate music teacher education students |
| 2010 | Neokleous, R. | Boston University | Tracking preservice kindergarten teachers' development of singing skills and confidence: An applied study |
| 2010 | Rummel, J. R. | Boston University | Perceptions of jazz improvisation among Pennsylvania music educators |
| 2010 | Stringham, D. | Eastman | Improvisation and composition in a high school instrumental music curriculum |
| 2009 | Hendricks, K. | University of Illinois, Urbana-Champaign | Relationships between the sources of self-efficacy and changes in competence perceptions of music students during an all-state orchestra event |
| 2009 | Scruggs, B. | Georgia State University | Learning outcomes in two divergent middle school string orchestra classroom environments: A comparison of a learner-centered and a teacher-centered approach |
| 2008 | Fitzpatrick, K. | Northwestern University | A mixed methods portrait of urban instrumental music teaching |
| 2007 | Bazan, D. | Case Western Reserve | Teaching and learning strategies used by student-directed teachers of middle school band |
| 2007 | Thomas, M. P. | Walden University | Effects of team teaching in the massed secondary choral setting |
| 2005 | Saunders, A. | The University of Utah | The role of motivation in the choral setting: Teacher beliefs and their impact on choral conductor behavior and choral student motivation |
| 2005 | Dansereau, D. | Georgia State University | The musicality of 3-year-old children within the context of research-based musical engagement |
| 2004 | Huang, H. | University of Idaho | A study of the relationship between music learning and school achievement of sixth-grade students |

Note: Dissertations retrieved from the Proquest: Digital Dissertations and Theses database, using the search terms "mixed methods" and "music" or "music education" and the date range 2000–2010.

**Figure 4.1 -** (Fitzpatrick 2020:174) – Early U.S. – Based Mixed Methods Dissertations in the Field of Music Education (up to 2010).

According to West (2014), music education research traditionally was mostly focused on quantitative methods and only recently has included *mixed methods* designs that combine techniques and findings in both paradigms (Leech et al. 2010 found in West 2014:53). The

American Psychological Association (2020) guidance in using mixed methods suggests to the researchers, various approaches.

- For Participants or Other Data Sources, rather than describe data, it is better to describe data sources as open-ended information such as qualitative interviews and closed-ended information (2020:2).
- For Guidance for Authors, they advise that because mixed methods research includes qualitative research, and reflexivity is often included in qualitative research, authors should use statements as to how the researchers' backgrounds influence the research. (2020:2).
- For Data Analysis, they suggest devoting separate sections to qualitative data analysis, quantitative data analysis, and mixed-methods analysis. This mixed-methods analysis consists of ways that the quantitative and qualitative results will be "mixed" or integrated according to the type of mixed-methods design used (2020:2).
- For Findings and Results Subsections, the guidance to authors is in the Findings section, which typically includes sections on qualitative findings, quantitative results, and mixed methods results it should mirror the type of mixed methods design in terms of sequence when presenting research findings, it is important to consider the order in which the quantitative and qualitative results are presented. If both types of data were collected simultaneously, it is acceptable to present either the qualitative or quantitative results first (2020:3).

The research approach to analysing the data from this study involves merging the quantitative data from the Flow questionnaires with qualitative research consisting of observations and notes taken after each section of lessons. Combining these two sources of information will provide a comprehensive understanding of the findings. My professional experience as a music teacher to adolescents will also be considered when interpreting the mixed-method analysis results. The research question of whether or not by applying VAMP-infused (Visually Augment Music Pedagogy) lessons one can foster Flow will be answered based on Creswell's and Guetterman's (2019:65) suggested diagram (Figure 4.2). Qualitative and quantitative data analysis will also involve narrative research within the frame of Grounded Theory.

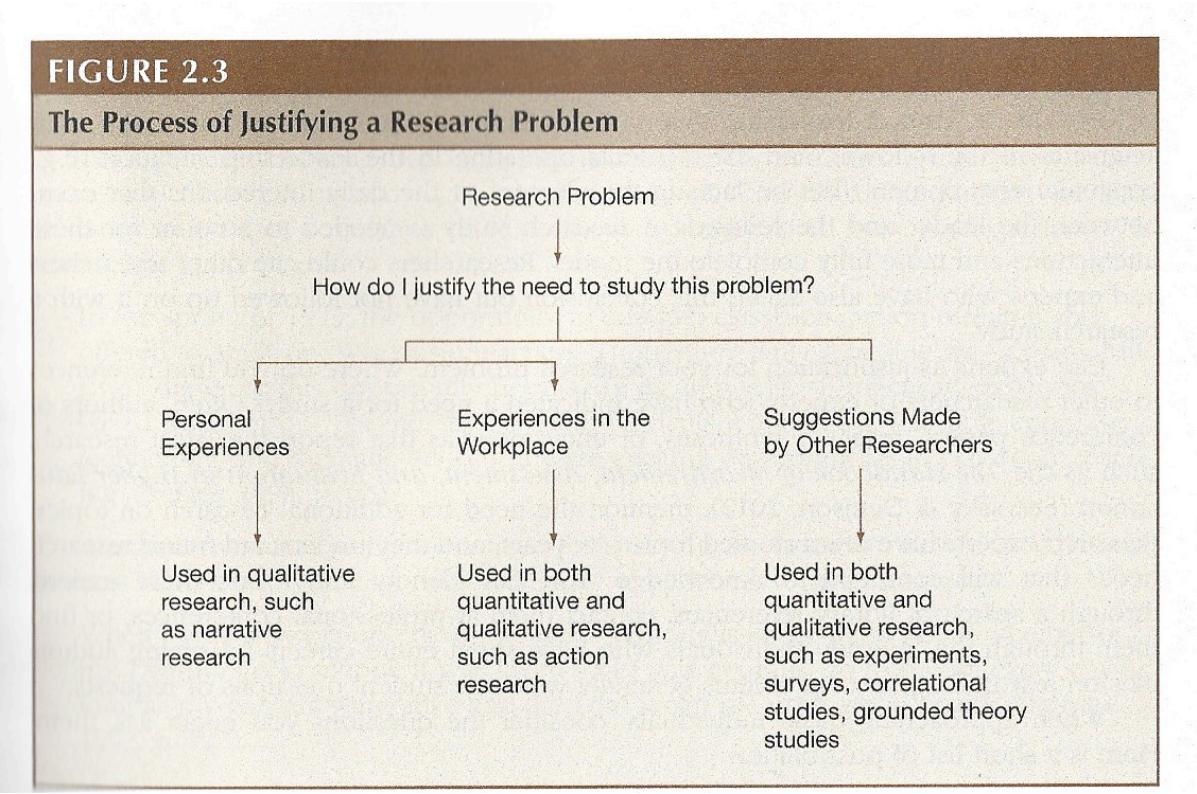



**Figure 4.2** - (Creswell and Guetterman 2019:65) – proposed diagram regarding the process of justifying a research problem.

## 4.2 GROUNDED THEORY

Grounded theory is “the discovery of theory from data systematically obtained from social research” (Glaser and Strauss 1967:2).

The term was coined by the sociologists Glaser and Strauss (1967), and it represents a critique of hypothesis-driven research and an unthinking preference for deductive logic and methods. They believe that the discovery of theory from data-which they call *grounded theory* is a major task confronting sociology. They continue that their aim in creating this theory is to fit into empirical situations, understandable to sociologists and laymen alike. Overall, the theory is generated from the ground-up, rather than by logical deduction from a priori hypotheses, it should be justifiable by reference to the data and serve an explanatory, not just a descriptive function. Most importantly, the theory aims to provide the researchers with relevant predictions, explanations, interpretations, and applications (1967:1).

Glaser and Strauss (1967:17-18) stated that both quantitative and qualitative data are useful for the generation and verification of the grounded theory; however, later, Glaser discarded verification, but Strauss continued it as part of grounded theory in Qualitative Analysis. The most notable reconstruction and the schism between Glaser and Strauss was found in Strauss and Corbin's (1990) suggestion of new technical procedures to *apply* to data rather than *emerge* from them (Charmaz et al. 2018:724). Glaser and Strauss proceeded in different directions of Grounded theory, with Glaser establishing the emergent method (Glaser 1992) and the system design method (Strauss and Corbin 1990).

Since then, Grounded Theory has been through many amendments over the years, such as:

Bryant, 2002; Bryant and Charmaz, 2007; Charmaz, 2000, 2008; Corbin and Strauss, 2008; Gibson and Hartman, 2013; Glaser, 2005, 2013; Thornberg, 2012 and Thornberg and Charmaz, 2014. Charmaz (2006; 2014) created a third method, the Constructivist, which treats research and developed theory as a construction (Figure 4.3).

**TABLE 13.1**

**Comparing Systematic, Emergent, and Constructivist Approaches to Grounded Theory**

| | Type of Grounded Theory | | |
|---|---|---|---|
| **Grounded Theory Elements** | **Systematic** | **Emergent** | **Constructivist** |
| Procedures of Research | Detailed, rigorous, prescribed | Flexible, less prescribed | Flexible, active role of researcher |
| Process of Coding | Open, axial, selective coding | Examine data, compare data with emerging categories, refine | Use active codes to capture experiences, researcher determined |
| Development of Categories | Preset categories: causal conditions, context, core category, intervening conditions, strategies, consequences | Categories develop from the data | Categories develop from views, values, beliefs, feelings, assumptions, and ideologies of individuals |
| Focus of analysis | Describing categories | Connecting categories and emerging theory | Understanding meaning ascribed by participants |
| Representation of Theory Generated | Concrete logical paradigm or visual diagram of findings | More abstract-level explanation of basic social processes | More abstract, avoids diagrams and conceptual maps; conclusions are suggestive, incomplete, inconclusive |

**Figure 4.3** - (Creswell and Guetterman 2019:436) – Comparing Systematic, Emergent, and Constructivist Approaches to Grounded Theory.

“A grounded theory design is a systematic, qualitative procedure used to generate a theory that explains, at a broad conceptual level, a process, an action, or an interaction about a substantive topic” (Creswell and Guetterman 2019:434).

In general, Grounded Theory, despite the various changes and alterations, retained its defining grounded characteristics as it begins with inductive data, simultaneous data collection and analysis, relies on comparative methods, and explicitly focuses on analysis and theory construction. It also provides tools to study actions and processes and contains strategies for developing, checking, and strengthening an original analysis. The constructivist version of Grounded theory suggests that individuals construct both the research process and the studied phenomenon through their actions. This approach takes into account the impact of historical, social, and situational factors on these actions and acknowledges the researcher's involvement in shaping the data and analysis (Charmaz et al. 2018:721).

According to Taber (2000:471), Grounded Theory requires cycles of research activity. This research methodology will follow Charmaz’s Constructive interpretation of the Grounded Theory (Figure 4.4) (Charmaz 2006:11).

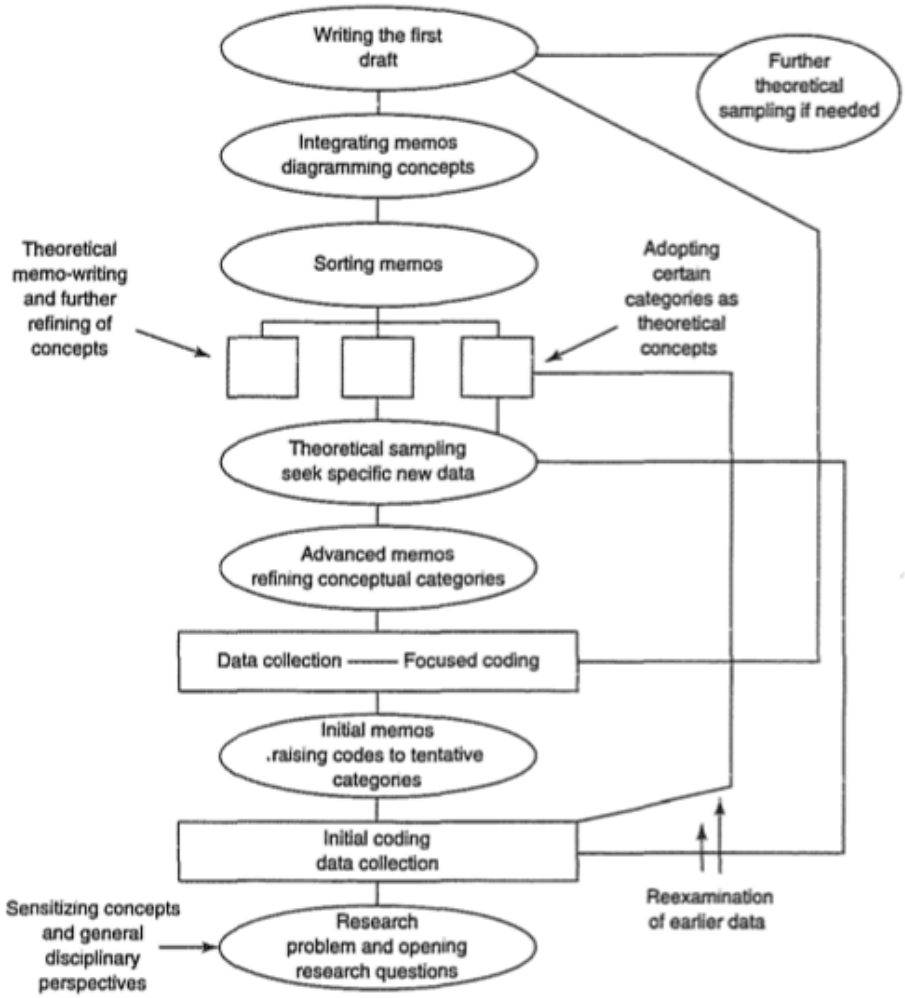



**Figure 4.4** - Charmaz (2006:11) suggested a diagram as a template regarding the process of Grounded Theory.

The research will follow Charmaz's diagram by starting with the: **Research question/ problem** – Can I create a mindful classroom environment by teaching music visually?

**Coding and data collection** - separating my classes into Control and VAMP-infused groups, coding the students (for privacy) and the data collection of the questionnaires.

**Memos –** Personal teachers' notes of designed lessons, comments on their application, and some students' feedback in addition to the questionnaires.

**Adopting certain categories as theoretical concepts –** Literature review

Regarding Literature review in Grounded Theory, as suggested by Glaser and Strauss (1967), was "literally to ignore the literature of theory and fact on the area under study, in order to assure that the emergence of categories will not be contaminated" (1967:45). Glaser and Strauss (1967) in essence want researchers to ignore the literature and focus on creating a method, by data collection, that aims to construct a theory rather than to test pre-conceived notions.

“In grounded theory research, the existing literature is not used as a theoretical background, but rather as data to be used by the analytic strategies of the research” (Ramalho et al. 2015:1).

Whilst most research studies use a literature review before data collection, as it helps the researcher to contextualise the research within existing knowledge (Creswell 2012, Gibbs 2008), in Grounded Theory research, conducting a literature review before data collection and analysis is commonly presented as a constraining exercise rather than as a guiding one (Glaser 1992, Glaser and Strauss 1967, Strauss and Corbin 1990). Although Glaser and Strauss diverted the methodological approaches of their Grounded Theory adaptations, they continued to share the notion that in order to create such theory the researchers should avoid “contamination” caused by the literature of their research product. Their rationale was that despite their divergence on the methodological approach to literature reviews, they remained connected by the shared core notion that in order to produce a Grounded Theory, it was key to allow such theory to emerge or to be discovered by avoiding the researcher's "contamination" of the research product (Ramalho el al. 2015:3). Glaser’s (1992) advice to researchers is that before they proceed to review the literature in the substantive area of study, they should ensure that the theory from their own project has been “sufficiently grounded in a core variable and in an emerging integration of categories and properties” (1992:32). For Glaser (1992) Literature can be used as ‘data’ and constantly compared with the emerging categories to be integrated in the theory.

Charman’s stand on literature review references Thornberg's (2012) call for an “informed grounded theory” that gives critical attention to the literature as a starting point in grounded theory studies (Charmaz et al. 2018:722).

Therefore, Charman’s Grounded Theory model allows this research to utilise qualitative and quantitative methods in music analysis (as discussed at the beginning of this chapter). In this way, the research will be able to use literature as a starting point and, through data collection, analysis, and memos, in order to Ground the new theory that, by Teaching Music Visually,

one can transfer knowledge in a mindful environment. Using existing literature as a starting point of the Grounded Theory, the research will look up ways and methodologies that measure the mindful state of Csikszentmihalyi's (1990) *Flow* and Kandinsky's (1914) state of *Transencennce* in teaching with Visually Augmented Music Pedagogy (VAMP) (Chapter 5).

## 4.3 OLD AND NEW APPROACHES FOR FLOW IN ADOLESCENCE

Before formulating the theory of Flow in 1990, Csikszentmihalyi and Larson (1984) applied the Experience Sampling Method (ESM) to chart adolescent life and to see the psychosynthesis of those turbulent teenage years of conflict and growth. According to Csikszentmihalyi and Larson (1984), people studying adolescence have traditionally faced difficult methodological choices, the main two being the psychometric research with standardised paper-and-pencil on many teenagers and the psychometric approach of direct observation (1984:30-31).

Also, they found that using in-depth clinical interviews along with other methods helped reveal important facts and trends about adolescence. Nevertheless, there is a significant aspect of adolescence that has received little attention, which is the correlation between teenagers' subjective experience and the concrete events of their daily lives "from encounters with friends to the long hours spent in classrooms, from the drudgery of helping clean the house, to the escape to their own bedrooms" (1984:31).

To achieve such a rounded representation of adolescent life, Csikszentmihalyi and Larson utilised the ESM, combining the strengths of the previously mentioned psychometric data collection instruments and observation at random times during selected seventy-five teenagers' lives. The randomly selected participants agreed to always carry a pager device throughout the day, and to be alerted forty to fifty randomly chosen moments in their daily lives for one week. When the pager rang, they were asked to fill out a questionnaire with self-reports of thoughts, activities, and feelings about the activity they were doing at the time.

"Adolescents participating in this research reported doing all the things they normally do, from cutting classes to teasing friends, from shopping for dental floss to watching the Miss America Contests" (1984:33). By applying ESM self-report data, Csikszentmihalyi and Larson (1984) managed to identify patterns in adolescents' lives that bring joy and growth. This was the baseline for further research into Flow theory. Even though this study was conducted almost

forty years ago, its findings align with my experiences interacting with teenagers throughout my career as a teacher, which spans twenty-nine years.

Csikszentmihalyi further tested his ESM method by involving teachers and students in recent examples. For example, the pager will go off randomly during the teacher's class, prompting them to record their thoughts and their perception of their students' thoughts. At the same time, the students were instructed when they heard the pagers, also, to write down what they were thinking, “how much they concentrated, how happy they were, their self-esteem, and various dimensions” (Csikszentmihalyi 2014a:131).

However, Rheinberg et al. (2003:265) criticised Csikszentmihalyi’s ESM as its intrusive nature and time expenditure associated put the Flow process at risk of being interrupted. It is worth mentioning again that for the Flow state to be achieved in an activity:

- The balance that combines skill and challenge
- Merging of action and awareness
- Clearly defined goals
- Clear feedback
- Concentration on the task – Cognitive absorption
- The paradox of the control
- Loss of self-consciousness
- Lost sense of time
- Autotelic experience

Flow, as a mental condition, is a subjective experience that challenges researchers in validating, measuring, and confirming its existence. Hoffman and Novak (2009) analysed thirty different Flow categorisations. They found sizable inconsistencies regarding the definitions of Flow dimensions and the experience of Flow and its effects (Heutte et al. 2016:129).

The challenge in measuring Flow has also been observed by Jackson et al. (2008) in research on long and short measures of Flow in sports activities. Another observation by Seifert and Hedderson (2009) was that Flow represents both the reason for and the outcome of engaging in an activity; this creates an additional challenge in measuring it. Moneta (2012) observed that over the past thirty-five years, researchers have kept developing, modifying, and revalidating ways of measuring Flow, “which indicates that a gold measurement standard for flow has yet to be achieved” (2012:23). Engeser and Shiepe-Tiska (2012) are some of the

researchers that pointed out that there is a certain level of disagreement among researchers as to how Flow should be measured (Heutte et al. 2016:129). An additional difficulty is due to the fluctuation in the state of Flow with the risk of disturbing the fine balance if the subject is interviewed.

## 4.4 FLOW MEASURING METHODS

“Any attempts to investigate flow are fraught with difficulties and limitations. Part of the attraction of the flow state lies in its mystique. Flow cannot be fully captured by a score on a questionnaire, experience sampling methods, or in-depth interviews”. Jackson and Marsh (1996:32).

Despite the continuing challenges for reporting and measuring Flow, the research is still mostly involved in developing different qualitative methods and versions of the initial ESM. The numerous versions of adapting a measuring method for Flow, as listed in the table by Lonczak (2019:5-8), further demonstrate how challenging measuring Flow can be (Figure 4.5 - full readable document in Appendix 4.1).

| | | |
|---|---|---|
| 12 Item Flow Scale | Mayers, 1978 | Measures the frequency of flow experiences in specified activities. Contains 12 items and uses an 8-point semantic differential scale. Item examples include: *'I clearly know what I am supposed to do;' 'I feel I can handle the demands of the situation;' 'I feel self-conscious;'* and *'I enjoy the experience, and/or the use of my skills.'* It is unclear whether the scale has been validated. |
| Witmer and Singer Presence Questionnaire (PQ) | Witmer & Singer, 1998 | Measures presence following the use of immersive virtual environments. Factor analysis results for a 29-item version of the scale include the following domains: Involvement; Sensory fidelity; Adaptation/immersion; and Interface quality. Item examples include: *'How responsive was the environment to actions that you initiated (or performed)?;' 'How compelling was your sense of moving around inside the virtual environment?;'* and *'Were there moments during the virtual environment experience when you felt completely focused on the task or environment?'* Validity analyses for this 29-item version have shown promise. |
| Immersive Tendencies Questionnaire (ITQ) | Witmer & Singer, 1998 | Measures deep engagement in activities, with the main focus on media use. Contains 18 items using a 7-point Likert scale. Item examples include: *'Do you ever become so involved in a video game that it is as if you are inside the game rather than moving a joystick and watching the screen?'* and *'Do you ever become so involved in a television program or book that people have problems getting your attention?'* Preliminary validation studies have shown promise. |
| Online Flow Questionnaire (OFQ) | Chen, Wigand, & Nilan, 1999 | Measures flow experiences during web use. Respondents are first asked both the number of years they've used the web and the number of hours they use the internet over a week. They are then are asked to read a paragraph that contains a number of statements indicative of flow during web use, such as: *'I am so involved in what I am doing;' 'I am really quite oblivious to my surroundings after I really get going;'* and *'The world seems to be cut off from me.'* Respondents then answer seven follow-up questions in which they indicate whether or not flow responses such as those above have occurred. If they respond "yes," they are asked to elaborate on their feelings during such experiences. Validation studies have shown satisfactory results for this scale. |
| The Flow State Scale (FSS; long version) | Jackson & Marsh, 1996; Jackson & Eklund, 2002 | Measures flow experiences during physical activity. The original long version contains 36 questions that are designed to provide a fine-grained description of flow characteristics. The FSS uses a 5-point Likert scale. Item examples, which pertain to an event that has just happened, include: *'I know clearly what I want to do;' 'Things just seemed to be happening automatically;'* and *'I found the experience extremely rewarding.'* The scale has been validated. |
| The Flow State Scale (FSS; short version) | Jackson & Marsh, 1996; Jackson & Eklund, 2002 | Shortened (9-item) version of the FSS with one item per dimension. The scale has been validated. |
| Dispositional Flow Scale (DFS; long version) | Jackson & Marsh, 1996; Jackson & Eklund, 2002 | Measures the propensity to experience flow in a particular domain. The original long version contains 36 questions with the same format as the FSS. Item examples, which pertain to a particular experience, include: *'I knew what I wanted to achieve;' 'It was no effort to keep my mind on what was happening;'* and *'I am not concerned with what others may be thinking of me.'* The scale has been validated among various groups, including internet gamers (Wang, Liu, & Khoo (2009) and musicians (Sinnamon, Moran, & O'Connell (2012). |
| Dispositional Flow Scale (DFS; short version) | Jackson & Marsh, 1996; Jackson & Eklund, 2002 | As with the FFS, the longer version of the DFS was shortened to 9 items (one question per dimension). The scale has been validated. |
| Flow Short Scale | Rheinberg, Vollmeyer, & Engeser, 2003 | Contains 13 flow items measured on a 7-point Likert scale. The first ten items measure aspects of the flow experience, for example: *'I feel just the right amount of challenge;' 'I am totally absorbed in what I am doing;'* and *'I am completely lost in thought.'* The last three items measure perceived importance or outcomes of the flow experience, for example: *'Something important to me is at stake here;'* and *'I am worried about failing.'* The scale has been validated. |
| The Utrecht Work Engagement Scale (UWES) | Schaufeli & Bakker, 2003 | Measures degree of engagement in the work setting. Contains the following three dimensions: Vigor; Dedication; and Absorption. Includes 17 items and uses a 7-point Likert scale. Item examples include: *'At my work, I feel bursting with energy;' 'To me, my job is challenging;'* and *'Time flies when I'm working.'* The scale has been validated. |
| Questionnaire for measuring the flow state | Choi and Kim, 2004 | This brief (8-item) scale measures flow state during the use of online computer games using a 7-point Likert scale. Item examples include: *'I was entirely absorbed while playing the online game;' 'I felt curious while playing the online game;'* and *'playing the online game was interesting in itself.'* Psychometric qualities of this brief measure are unclear. |
| Situation-Specific Flow Questionnaire | Ollih, 2005 | Measures flow experience using 20 items, with 11 in the domain of Skills and Challenges; and nine in the domain of Absorption and Activity. A 5-point Likert scale is used. Item examples include: *'I felt I could meet the requirements of the situation;' 'My mind worked in total harmony with my body;'* and *'Time passed faster than I thought it did.'* This scale has been validated. |
| GameFlow questionnaire | Kiili & Lainema, 2008 | Measures flow experience in educational games. Contains 18 items using a 5-point Likert scale. The questionnaire is made up of 3 parts: Flow antecedents; Flow state; and Flow consequences. Reliability is inconsistent between indicators. Scale development is still underway for this measure. |
| Work-Related Flow Inventory (LF) | Bakker, 2008 | Measures positive experiences and mental state during the workday. Contains 13 items and uses a 7-point Likert scale. Includes the following three components: The experience of complete absorption; Enjoyment; and Intrinsic motivation. Item examples include: *'When I am working, I think about nothing else;' 'I do my work with a lot of enjoyment;'* and *'I find that I also want to work in my free time.'* The scale has been validated. |
| Core Flow Scale | Martin & Jackson, 2008 | Global measure drawn from a larger scale that assesses task absorption and enhanced subjective experience. Contains nine items and uses a Likert scale. Item examples, which refer to participating in an activity, include: *'I have a strong sense of what I want to do;' 'I have a feeling of total control;'* and *'The experience is extremely rewarding.'* This brief measure has achieved adequate validation for use in certain situations (i.e., music, sports, and work). |
| Short Flow Scale | Martin & Jackson, 2008 | Measures the subjective flow experience itself. Contains ten items and uses a Likert scale. Item examples include: *'I am in the zone;' 'It feels like I am in the flow of things;'* and *'I am totally focused on what I am doing.'* The scale is correlated with the Core Flow Scale and has achieved adequate validation for use in certain situations (i.e., extracurricular, math, sport, and general school). |
| EGameFlow | Fu, Su, & Yu, 2009 | Measures learners' enjoyment of e-learning games. Is useful for informing scale developers about how to improve users' flow experiences. Uses a 7-point Likert scale and contains 56 items within the following eight dimensions: Immersion; Social interaction; Challenge; Goal clarity; Feedback; Concentration; Control; and Knowledge improvement. Item examples include: *'Generally speaking, I can remain concentrated in the game;' 'I enjoy the game without feeling bored or anxious;'* and *'I forget about time passing while playing the game.'* The scale has been validated. |
| Game Engagement Questionnaire (GEQ) | Brockmyer, Fox, & Curtiss et al., 2009 | Measures deep engagement in video game playing and is especially useful for assessing the negative impact of violent games. Contains 19 items with a Likert response scale. Item examples include: *'Playing seems automatic;' 'If someone talks to me, I don't hear them;'* and *'I feel like I just can't stop playing.'* Preliminary validity studies show promising results. |
| Guo and Poole's Inventory | Guo and Poole, 2009 | Measures flow during immersive human-computer interaction. Includes the following three precursors of now: Clarity of goals; Feedback; and Balance of challenge and skill. The following six dimensions of flow are included: Concentration; Perceived control; Mergence of action and awareness; Transformation of time; Transcendence of self; and Autotelic experience. The scale has been validated. |
| The Activity Flow State Scale (AFSS) | Payne, Jackson, & Noh et al., 2011 (adapted from Jackson & Marsh, 1996) | Measures flow state using 34 items and a 5-point Likert scale. The AFSS was primarily adapted from Jackson's FSS (Jackson & Marsh, 1996). Participants rate recent enjoyable activities. Item examples include: *'I did things spontaneously without having to think;' 'I had a good idea while I was performing about how well I was doing;'* and *'The experience was extremely rewarding.'* Preliminary research shows acceptable validity among older adults. |
| Flow for Presence questionnaire | Rodelli and Riva, 2011 | Measures presence and flow state among individuals working within a technological environment. Uses a 5-point Likert scale. Is a promising tool for today's increased use of technology within a work setting. Preliminary validation studies have shown promise. |
| Flow State Questionnaire of the Positive Psychology Lab (PPL-FSQ) | Magyaródi, Nagy, Soltész, Mózes, & Oláh, 2013 | Measures the basic meta-dimensions of flow. Includes 20 items with a 5-point Likert scale. Item examples include: *'Time passed faster than I thought it did;' 'The activity totally engrossed my attention;'* and *'I knew exactly what I had to do, and I acted accordingly.'* Exploratory factor analyses have yielded promising results. |

**Figure 4.5** - Lonczak (2019:5-8) – This non-readable image is just a visual representation of the variations of ESM methods regarding measuring Flow. The full document is available in the appendixes.

Considering the above various attempts, this chapter discusses only a few of the most popular and relevant to this research method, intending to identify the most appropriate method for

measuring whether students experience Flow if they are taught music visually in a classroom setting. These methods of measuring Flow are:

- Experience Sampling Method (ESM)
- Short Flow Scale (FKS)
- Dispositional Flow Scale (DFS) / Flow State Scale (FSS2)
- Educational Flow (EduFlow)

## 4.5 EXPERIENCE SAMPLING METHOD (ESM)

Csikszentmihalyi used Mayers' (1978) 'Experience Sampling Method' to determine whether an activity has triggered a state of Flow (Csikszentmihalyi 1990:271). In more detail, ESM is a research method employing paging devices to capture "snapshots" of momentary experience across a wide spectrum of human activities and settings. Added to the paging device the subjects respond to questions about their psychic states and activities, using a diary-like "day-book" (Whalen 1997:4). Csikszentmihalyi's and Larson's adaptation of the method (1984) involved interviews, questionnaires, as well as paging devices, asking people eight times during the day to write down how they felt during the various activities in their everyday life to pinpoint the stages where they would achieve Flow (Csikszentmihalyi 1990:4). According to Csikszentmihalyi, Flow state was reported when there was a combination and a balance between challenge and skill at the reported experience with high levels of concentration, intrinsic motivation, and enjoyment, thus indicating a complex state of one's consciousness (1990:159).

This method focuses on Likert-type scales on the activity carried out when the participants were asked to state what they were doing when prompted by a paging device. Normally these sessions lasted for one week, and this type of research involved multiple random samples from the stream of everyday experience. According to Kubey et al., these "comprehensive snapshots at each random moment" were able to capture frames of everyday life that, if pieced together, revealed a cohesive picture of behaviours and experiences (1996:23). According to Whalen (1997:5), ESM is a method that provides a precise way of identifying the match between perceived challenge and skill levels by using the Likert scale in a questionnaire. Furthermore, it enables the examination of the elements linked to different proportions of challenge and skill. This leads to the emergence of the "ratio" between perceived challenge

and skill as a primary operational definition of the Flow situation. Assuming that challenge and skill ratings are orthogonal, four subjective states crucial to the Flow model are defined based on high-low challenge-skill congruence. These states include Flow (HighC-HighS), Boredom (LowC-HighS), Apathy (LowC-LowS), and Anxiety (HighC-LowS) according to Whalen (1997:5).

This method was further researched and developed to include self-reports based on Flow with questionnaires designed by Csikszentmihalyi and Schnieder (2000), Shernoff et al. (2014), Whalen (1997) and Delle Fave and Massimini (1988) Jackson and Marsh (1996), Jackson and Eklund (2002), Rheinberg et al. (2003), Martin and Jackson (2008) among others (Figure 4.5 and Appendix 4.1).

The original questionnaire consists of three quotations describing the Flow state, such as to what extent the participants agree or not with the principal quotation, “My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing” (Csikszentmihalyi and Csikszentmihalyi 1988:67). The three quotations were originally devised by Csikszentmihalyi (1975, 1982, 1985). They were translated into Korean by the author and were extended as follows:

1. “My mind isn't wandering. I am not thinking of something else. I am totally involved in what I am doing. My body feels good. I don't seem to hear anything. The world seems to be cut off from me. I am less aware of myself and my problems.
2. My concentration is like breathing. I never think of it. I am really quite oblivious to my surroundings after I really get going. I think that the phone could ring, and the doorbell could ring, or the house burn down or something like that. When I start, I really do shut out the whole world. Once I stop, I can let it back in again.
3. I am so involved in what I am doing. I don't see myself as separate from what I am doing” (Han 1988:139-140).

Mayers, in his doctoral dissertation (1978), was, according to Csikszentmihalyi, the first to alert them to the fact that teenagers listed interactions with their friends as both the most enjoyable and also the most anxiety-producing and boring experiences in their day. This usually did not happen with other categories of activities, which were, in general, either always boring or always enjoyable. Since then, the finding has been replicated with adults also (Csikszentmihalyi 1990:271). According to Csikszentmihalyi and Csikszentmihalyi (1988:195), Mayers created a Flow Scale consisting of 12 items to measure the frequency of

Flow experiences in different activities. To rate the experiences, Mayers used an 8-point semantic differential scale:

1. “I get involved.
   Very involved ... not at all involved
2. I get anxious.
3. I clearly know what I am supposed to do.
4. I get direct clues as to how well I am doing.
5. I feel I can handle the demands of the situation.
6. I feel self-conscious.
7. I get bored.
8. I have to make an effort to keep my mind on what is happening.
9. I would do it even if I didn't have to.
10. I get distracted.
11. Time passes (slowly ... fast).
12. I enjoy the experience, and/or the use of my skills” (Mayers 1978 found in Csikszentmihalyi and Csikszentmihalyi 1988:195).

According to Jackson et al. (2008), the method of submitting diaries over a one-week period can lead to variations in how it is applied. This suggests that some entries may be changed before they are submitted. Magyaródi et al. (2013:87) believe that even though ESM is commonly favoured due to its ability to provide valuable insights into the emotional state of an individual during a specific activity and allows researchers to collect real-time data on an individual's emotions, on the other hand, this type of method is time-consuming and can also create privacy issues. However, the ‘time-consuming’ aspect of the research can be overturned as it can be adapted to today’s technologies of mobile devices instead of pagers.

Throughout the evolution of Flow measuring scales, there have been both long and short versions, ranging from a 36-item to a 9-item scale. According to Jackson et al. (2008:563), the flow scales that consist of 36 items and are used to assess various dimensions of Flow. They have been proven to have strong psychometric properties in previous studies. The short flow scales are a new abbreviated version of the long versions, providing a brief measure of flow from a dimensional perspective. Both long and short scales can provide valuable options for assessing flow in different contexts and when different goals or constraints are operating. “Researchers wanting to capture an aggregate of the multidimensional framework might find the short scales a pragmatic alternative when constraints prohibit use of the full-length versions” Jackson et al. (2008:563).

## 4.6 FLOW SHORT SCALE AND THE FLOW-KURZSKALA SCALE

The Flow Short Scale contains 13 items measured on a 7-point Likert scale. The first ten items measure aspects of the flow experience, for example: '*I feel just the right amount of challenge*;' '*I am totally absorbed in what I am doing*;' and '*I am completely lost in thought*.' The last three items measure perceived importance or outcomes of the flow experience, for example: '*Something important to me is at stake here*;' and '*I am worried about failing*.' It measures the subjective flow experience and contains ten items in a Likert scale. Item examples include: '*I am in the zone*;' '*It feels like I am in the flow of things;' and 'I am totally focused on what I am doing*.' The scale is mostly used to achieve adequate validation for use such as extracurricular, math, sport, and general school (Jackson et al. 2008) (found in Lonczak 2019).

According to Rheinberg et al. (2003:265), the intrusive nature and time expenditure associated ESM puts the Flow process at risk of being interrupted. He, therefore, suggests the Flow Short Scale as an alternative measuring scale that uses short questionnaires such as the Flow-Kurzskala Scale (Heutte et al. 2016:129-130).

According to Sánchez et al. (2023:2), Rheinberg et al. (2003) proposed a 10-item short-form (*Flow-Kurzskala* – FKS), despite some reliability problems in their statistical analysis the authors asserted that all components of the flow experience can be measured with 10 items. Their study found two factors (FI & FII) within the scale. They showed that high values in their scale of total flow indicate that both factors (FI & FII) were presented. In contrast, with medium values, accentuations of one factor occurred to the detriment of the other.

Rheinberg et al. (2003:279) FKS Scale method measures all components of Flow experience with ten items (7-point scale).

1. "I feel just the right amount of challenge. not at all . . . partly . . . very much
2. My thoughts/activities run fluidly and smoothly.
3. I don't notice time passing.
4. I have no difficulty concentrating.
5. My mind is completely clear.
6. I am totally absorbed in what I am doing.

7. The right thoughts/movements occur of their own accord.
8. I know what I have to do each step of the way.
9. I feel that I have everything under control.
10. I am completely lost in thought" (Rheinberg et al. 2003:279).

Vollmeyer and Rheinberg (2006) estimated that the FKS measuring scale could be adapted in many subject areas for measuring Flow. Jackson et al. (2008) suggested a shorter nine items version (one for each dimension). However, Heutte et al. (2016:130) believe that such a shortened version of the FKS scale does not enable researchers to separate dimensions from observed data systematically.

### 4.7 DISPOSITIONAL FLOW SCALE (DFS) / FLOW STATE SCALE (FSS)

Dispositional Flow Scale (DFS) and Flow State Scale (FSS) are mentioned together as they were written to complement each other. They are reliable instruments that measure Flow in various contexts, including physical activity (Sinnamon et al. 2012). Dispositional Flow Scale (DFS) measures the propensity to experience flow in a particular domain. The original long version contains 36 questions with the same format as the FSS. Some of the item examples, which pertain to a particular experience, include: '*I knew what I wanted to achieve*;' '*It was no effort to keep my mind on what was happening;*' and '*I am not concerned with what others may be thinking of me*.' The scale has been validated among various groups, including internet gamers (Wang et al. 2009) and musicians (Sinnamon et al. 2012). As with the FFS, the longer version of the DFS was shortened to 9 items (one question per dimension) (Lonczak 2019).

Jackson et al. (1998) describe DFS as the 36-item scale – which describes the frequency of Flow in a given activity, and Flow State Scale (FSS) – which describes the degree to which Flow dimensions characterise a just completed experience or event. DFS assesses the frequency in which people experience Flow in a target activity. FSS is a scale in an assessment to be completed after the specific event of Flow experience. In both scales, all nine key Flow dimensions are addressed: challenge-skill balance, action-awareness merging, clear goals, unambiguous feedback, concentration on the task at hand, sense of control, loss of self-consciousness, time transformation, and autotelic experience (Jackson et al. 2008:563). According to Jackson et al., these measures were developed and validated in physical activity settings such as sports and computing (2008:563).

Their shorter forms, DFS2 and FSS2, instead of the 36 items, are reduced to 9 items examining only one of the nine dimensions listed by Csikszentmihalyi, the autotelic experience for a “concise assessment of the global flow construct” (Jackson et al. 2010:11). In contrast, the FSS2 was designed to be completed immediately after the event, DFS2 was designed to be completed at a different time than immediately following the activity. Flow State Scale (FSS) Measures Flow experiences during physical activity.

The FSS2 came from the original Flow State Scale (FSS) developed by Jackson and Marsh (1996). Flow State Scale uses 36 items, representing the nine flow dimensions proposed by Csikszentmihalyi (1990). This technique measures the Flow state of people in different activities, for instance, sports, physical educational activities, and others. An FSS generally comprises questions about different Flow dimensions, such as clear goals, immediate feedback, a match between personal skills and challenges, and others. According to Oliveira et al. (2018:32-33), many different FSSs were proposed to measure Flow experience considering different aspects and situations in the last decade. Yoshida et al. (2013) put forward a Flow State Scale (FSS) to assess the level of Flow state during work-related tasks. This FSS comprises 14 items and is based on the nine Flow dimensions proposed by Csikszentmihalyi (1990). In addition, Novak et al. (2000) proposed a different FSS to measure the flow state level in online environments. Martin and Jackson (2008) also suggested another FSS to evaluate the subjective experience of Flow through two short measures.

The measurement of Flow state in Educational Games has been facilitated by creating several Flow State Scales (FSS). These scales assess the player's psychological state while playing such games. Two examples of such scales are proposed to be used in Games. Fu et al. (2009) and Kiili et al. (2012). The former created the EGameFlow, which contains 42 items and evaluates eight dimensions of Flow, including Concentration, Clear Goal, Feedback, Challenge, Autonomy (control), Immersion, Social Interaction, and Knowledge Improvement. Kiili et al. (2012) proposed the scale of nine items and ten dimensions of Flow, including challenge, goal, feedback, playability, concentration, time distortion, rewarding experience, loss of self-consciousness, and sense of control. These scales provide a comprehensive evaluation of the Flow state and help in understanding the player's behaviour and engagement while playing Educational Games (Oliveira et al. 2018:32-33).

This scale primarily looks at the dimensional nature of Flow and the shortened FSS2 version was developed with questions examining the dimensions of Flow that were to be answered by the participant using a five-point Likert-type scale. Participants were asked to reflect on

an activity they recently completed that they felt fully engaged in, and then answer questionnaire items based on their experience.

The Flow State Scale was a valid and reliable measurement of the Flow construct (Jackson and Marsh 1996). The extended version consists of 36-item questionnaires, whilst the short version of 19 items uses a five-point Likert-type scale (1 strongly disagree to 5 strongly agree). In the extended version of the FSS, each dimension contains four statements, for example, in the domain of Action-awareness merging: '*I do things spontaneously and automatically without having to think*;' and, in the domain of Concentration on Task at Hand: '*I am completely focused on the task at hand*' (Jackson et al., 2008). The shorter version of the FSS also contains nine dimensions but only one statement per dimension. The shorter scale, which uses the same response format as the original version, is particularly useful when the more extended version is impractical. Validation research has indicated acceptable psychometric properties for both versions (Jackson et al., 2008).

### 4.8 EDUCATIONAL FLOW (EduFlow)

According to Csikszentmihalyi, before the development of the Flow in education model (EduFlow) (Heutte *et al.,* 2014), there was no short multidimensional scale designed and dedicated specifically to education. Prior to establishing EduFlow, Culbertson et al. (2015) researched Flow antecedents and contagiousness in a classroom setting with fourteen undergraduates during a quiz performance.

Throughout a two-week period, both the students and the instructor rated their moods at the beginning of each class. They also rated their level of engagement, comprehension, and perception of their classmates and the instructor's Flow at the end of each class. The daily quizzes that the students completed were based previous day's material. The results revealed that the previous mood, understanding, and interest in the material were relevant to the experience Flow. Also, social validation and contagion effects of Flow emerged. Unexpectedly, the results showed that knowledge acquisition over the quiz performance was unrelated to Flow (Culbertson et al. 2015:319). Culbertson et al. (2015:325) argue that methodological approaches have limited the understanding of Flow in educational settings since most research on Flow cannot establish causal nature of the relationships between potential antecedents and consequences.

Heutte et al. (2016) created a flow-measuring scale specifically for educational use. This model was built upon three major theories of the self: Self- Determination, Self-Efficacy and Autotelism-Flow (2016:127). According to Heutte et al. (2016:133), this EduFlow Scale has been tested by Heutte (2011) and Heutte et al. (2014) on pupils from primary to university level and online learning (Caron et al. 2014). This scale has been used extensively since (Mawas and Heutte 2019), (Heutte et al. 2021), (Alvarez et al. 2022) and (Buseyene et al. (2022).

Heutte et al. (2016) proposed that Positive Educational Psychology could be designated as the scientific study of the conditions and processes that contribute to the flourishing or optimal functioning of: 1. Learners, people working in education or training and all players who are part of the educational community; 2. Actual or virtual communities in which the above-mentioned people learn or work, and 3. Education and training systems, organisations or arrangements. According to Nakamura and Csikszentmihalyi (2009:195), conditions for reaching a state of Flow include: 1. A balance between perceived skills and perceived task demands; 2. Clear goals, and 3. Immediate feedback (Heutte et al. 2016:128). For the activity to be considered autotelic, the above conditions must include the following:

1. “An intense and focused concentration on the present moment;
2. The merging of action and awareness;
3. The loss of self-consciousness (i.e. loss of awareness of oneself as a social player);
4. A strong feeling of control, specifically over one’s actions, characterised by a feeling of ability to deal with the situation and a feeling that one knows how to deal with whatever comes next;
5. Distortion of the temporal experience, or a modified experience of time (typically, a sense that time has passed faster than usual);
6. Experience of the activity as intrinsically rewarding (enjoyment and well-being rooted in the activity itself) such that often the end-goal is just an excuse for the process (the *autotelic experience*)” (Nakamura and Csikszentmihalyi 2009 found in Heutte et al. 2016:128)

Agarwal and Karahanna (2000:665) researched the multi-dimensional construct labelled Cognitive Absorption (CA) and defined it as a state of deep involvement with technology, *World Wide Web* and software. In the description of CA they included the five dimensions of temporal dissociation, focused immersion, heightened enjoyment, control, and curiosity. Heutte et al. (2014), with the permission of Agarwal and Karahanna (2000) they extended the

concept of Cognitive Absorption (CA) in order “to include a state of deep involvement in an activity focused on understanding with - or without – software” (Heutte 2014 et al. found in Heutte et al. 2016:132).

According to Heutte et al. (2016:139) the EduFlow Scale model has three advantages:
1. it is suited to Flow measurement in various educational contexts,
2. it is short and,
3. it differentiates between four dimensions of Flow related to cognitive process.

According to Lonczak (2019), additional advantages are that contrary to FSS and DFS, EduFlow is free to use and can be applied in different educational settings and disciplines. The 12-item scale differentiates the four conceptual dimensions of Flow:

1 The Cognitive absorption (FlowD1).
2 Time transformation (FlowD2).
3 Loss of self-consciousness (FlowD3).
4 Autotelic experience (well-being) (FlowD4).

The initial EduFlow model allocated each conceptual dimension three items (Heutte et al. 2014)

Heutte, et al. (2016b:23) further proposed a small change of the original version in the statement in the FlowD2 from “*Time seems to flow by in a different way than ever before”* to “*I am totally absorbed in what I am doing”*. The EduFlow2 Questionnaire (Figure 4.6) will provide the quantitative part of the research and will be completed at the end of each lesson in order to trace any possible *Flow*.

EduFlow2

Questionnaire During a learning activity

1 2 3 4 5 6 7

(strongly disagree) ……(totally agree)

**FlowD1: Absorption Cognitive/ Cognitive absorption**

01D1a. I feel I am able to meet the high demands of the situation. 1 2 3 4 5 6 7

02D1b. I feel that what I do is under my control. 1 2 3 4 5 6 7

03D1c. I know what I have to do at every step of the task. 1 2 3 4 5 6 7

**FlowD2: Time transformation**

04D2a. I am totally absorbed in what I am doing. 1 2 3 4 5 6 7

05D2b. I am deeply concentrated on what I'm doing 1 2 3 4 5 6 7

06D2c. I don't notice the time passing. 1 2 3 4 5 6 7

**FlowD3: Loss of self-consciousness**

07D3a. I didn't care about what the others could think of me. 1 2 3 4 5 6 7

08D3b. I don't fear the judgment of others. 1 2 3 4 5 6 7

09D3c. I was not worrying about what the others think about me. 1 2 3 4 5 6 7

**FlowD4: Autotelic experience (well-being)**

10D4a. I have the feeling of living a moment of excitement. 1 2 3 4 5 6 7

11D4b. This activity makes me happy. 1 2 3 4 5 6 7

12D4c.When I talk about this activity, I feel a strong emotion and I want to share it. 1 2 3 4 5 6 7

**Figure 4.6** - Heutte et al. (2014:32) Mawas and Heutte (2019:497) – EduFlow questionnaire.

Mawas and Heutte (2019) contacted the first EduFlow questionnaire in the English language to test the students' motivation in a Computer Science course. The experimental study involved thirty-three students who answered the same questionnaire twice a week. Their study results showed that the autotelic experience (well-being provided by the activity itself) of the students in the Computer Science course was significantly positively correlated with academic achievement (2019:495).

One of the most recent research projects on Flow Theory models was conducted by Rosas et al. (2022:1) used both FKS and EduFow scales along with smartwatches connected to Polar H10 sensors and their applications created especially for the research. The groups in the research participated in two training activities with different instructional designs and three different STEAM subjects: graphic design, video game design using Roblox Studio, and educational robotics. The quasi-experimental design involving the smartwatch sensors, the heart rate, its variability, data from accelerometers, and the educational activities carried out by the teacher have been automatically recorded for each participant at every second. At the end of each session, everyone answered the Flow FKS and EduFlow prevalence questionnaires, and the teacher kept a class journal. The purpose of the research was to assess the validity of Flow Theory models derived from the FKS and EduFlow scales from a physiological perspective. Additionally, the study aimed to create classification and predictive models using artificial intelligence that can help improve students' academic performance in future research.

In this ongoing research, Rosas et al. (2022:3) found that the EduFlow and FKS scales appear to measure the same construct but that the latter offers normal distributions, allowing for more powerful statistical testing and a wider range of artificial intelligence techniques. They suggest that from a physiological perspective, it will be preferable to monitor the classroom without distracting participants from their training activities or limiting their mobility. Based on the results, their objective is to propose further research and develop a new model typology for Flow Theory in educational contexts.

### 4.9 CLUTCH PERFORMANCE AND FLOW

Measuring and analysing the Flow state is a complex task, as discussed earlier. Despite numerous alterations and versions of the methods, it is challenging to measure this psychological state, which is crucial for the life development of human beings (Csikszentmihalyi 1992). The research is ongoing, and academics are finding new ways of approaching the optimal state. For instance, Swann et al. (2016:2) researched professional golfers and found that the phrases used to describe their experience were “letting it happen” and “making it happen”. They described “letting it happen” as an experience characterised by open goals, less contextual structure and related to exploratory and self-referenced behaviours – what we consider flow. And the other state, “making it happen”, was described as “heightened and effortful concentration, intensity of effort, and heightened awareness of the situation – which do not correspond with previous conceptualisations of flow (e.g Jackson and Csikszentmihalyi 1999) or peak performance (e.g., Krane and Williams, 2006)” Swann et al. (2016:2). They considered this second state of being something similar to “clutch performance” first described by Hibbs (2010:47), where athletes can achieve positive results using their abilities in high-pressure contexts.

Sánchez et al. (2023:2) believe that explaining the above two optimal psychological states contains specific characteristics. On the one hand, Flow is the experience of a subjective state that merges within the sport context that challenges an individual's abilities. “The original definition of flow describes it as a multidimensional state with nine dimensions: (a) perceived challenges that stretch existing skills, (b) action-awareness union, (c) clear goals, (d) positive feedback, (e) concentration in the task at hand, (f) sense of control in what one is doing, (g) loss of self-consciousness, (h) distortion of time perception, and (i) autotelic experience” Sánchez et al. (2023:2). On the other hand, Clutch refers to the subjective experience of feeling increased pressure due to time or performance demands during sports practice. Sánchez et al. (2023:2) state that individuals can recognise and manage stress to increase their physical and mental energy levels and achieve their goals. According to Swann et al. (2016, 2017 and 2019), Clutch performance is characterised by factors such as physical exertion, a heightened sense of self-importance, intense physiological arousal, the absence of negative thoughts, and the ability to use one's skills automatically. According to Schweickle et al. (2021:102), there are different definitions of Clutch performance in the literature that conflict with each other. As a result, two approaches have emerged for studying Clutch performance: (i) as a skill; or (ii) as a single performance event.

Clutch as an alternative to Flow has been explained with a variety of definitions. Sánchez et al. (2023:3) believe that “clutch has been measured as a skill and/or a performance episode, looking to prove its occurrence and evidence, and the obtained results have been very unsatisfactory”. They suggest that fellow authors of the Clutch definition develop new questionnaires to differentiate between Flow and Clutch states. Current methodologies and tools do not distinguish between the two experiences, leading to all aspects being attributed to Flow. Also, a table below they list the different Flow questionnaires, characteristics, and limitations over the years (Figure 4.7, full document Appendix 4.2).

TABLE 1 Flow questionnaires, characteristics, and limitations, over the years.

| Name | Reference | Items | Language | Characteristics | Limitations |
|---|---|---|---|---|---|
| *Flow State Scale – FSS* | Jackson and Marsh, 1996 | 36 | English | 9 factor model, with 4 items for each dimension. Likert scale of 5 points, from 1, strongly disagree to 5, strongly agree. | Lower factor loadings in Transformation of Time and Loss of Self-Consciousness. No clarification if one global factor is valid or must be used always using 9 factors individually. Retrospective approach to data collection. Heterogeneous sample may not generalize to specific subgroups. |
| *Dispositional Flow Scale - DSS* | Jackson et al., 1998 | 36 | English | Based on FSS, respect 9 factors and 36 items (4 each dimension). Changes in the wording and the tense of phrases designed to assess frequency. | Sample was limited to older athletes, not having control over when participants completed the state assessment. No answer to the global factor to measure flow. Lack of relationship with the motivation scales and variables. Lack of relationship between challenges ratings and flow subscales. |
| *Flow State Scale-2 – FSS-2* | Jackson and Eklund, 2002 | 36 | English | Original 36-item FFS along with 13 additional items devised as potential replacements. 5-point Likert scale ranging from 1, never to 5, always. | The higher-order factor loadings of time transformation remain relatively weak, being unclear whether the item is problematic. Differences in factor loadings expresses differences in flow experiences, but there is no specific answer on why this can be supported (maybe differences in sports or physical activity). Special problems in the perception of the self. Limited control over when the questionnaires are completed. |
| *Flow State Scale (Spanish Version)* | García Calvo et al., 2008 | 36 | Spanish | Translation of the original FSS to Spanish. 36 items and 9 factors. 10-point Likert-type scale. | Lowest value in sense of time and loss of self-consciousness, where the authors propose to revise them in future research. Different correlations to motivational variables compare to DFS. Heterogeneous sample produce unexpected relations, with heterogeneous values in its results. |
| *Flow-Kurzskala – FKS* | Rheinberg et al., 2003 | 10 | German | 10 items adapted from the original FSS where selected. 7-point Likert-type scale. | Include new items in the scale that were not related to flow dimensions or construct, that have weak psychometric stability. Not achieve desired fit limits and had cross-loadings and unsatisfactory factors loadings. |
| *Short Flow Scale - SFS* | Jackson et al., 2008 | 9 | English | 9 items, with one item from the four-item measures of each on the nine flow dimensions. | Did not reach acceptable criterion levels of fit across all indices. The situation-specific state short measure requires more discrimination between factors (fit is reduced). Limitations of the self-report and retrospective recall. Problems in validity and reliability and additional research is needed to examine its psychometric properties. |

**Figure 4.7** - Sánchez (2023:3) – Table that lists Flow questionnaires, characteristics and limitations over the years.

According to Oliveira et al. (2018:42-43), in education and technology, the Flow theory has its problems as terms related to “computers in education” were chosen based on Bittencourt et al. (2016) as they are considered experts in this field. However, they discovered that some terms have been synonymous and simplified, making generalisations unsatisfactory with the actual education research (Figure 4.8). They found that e-learning was the most studied category (12 studies), followed by educational games (11 studies), virtual learning environments (9 studies), and virtual worlds (6 studies). Augmented Reality and Internet Usage categories were each addressed in 3 studies, while Gamification, Intelligent Tutoring Systems, and Mobile Learning categories were addressed in 2 studies each. In addition, six educational technology types were addressed by only one study: Computer Assisted Instruction, Cyber University, Game-based Learning, Multimedia Instructional Materials, User Interface, and Web-based Instruction. The researchers concluded that Flow Theory is most commonly used with games and/or game-based educational technologies (Oliveira et al. (2018:43).

| Search String Distribution | | |
|---|---|---|
| **Id** | **Main Term** | **Synonymous Terms** |
| 1 | flow theory | • flow state |
| 2 | educational software platform | • computers in education<br>• informatics in education<br>• technology in education<br>• educative software<br>• educational software |
| 3 | educational system | • learning management system<br>• online education<br>• educational environment |
| 4 | learning environment | • virtual learning environment<br>• artificial intelligence in education<br>• artificial intelligence for education |
| 5 | web-based learning | • e-learning<br>• electronic learning<br>• m-learning<br>• mobile learning<br>• t-learning<br>• transformative learning<br>• internet-based learning<br>• web-based education |
| 6 | semantic web-based education | • semantic web and education<br>• semantic web for education |
| 7 | collaborative learning | • cooperative learning<br>• collaborative networked learning<br>• collaborative learning in virtual worlds |
| 8 | adaptive hypermedia | • adaptive educational systems<br>• hypermedia-based education |
| 9 | intelligent tutoring system | • intelligent educational systems<br>• intelligent tutor |
| 10 | distance education | • distance learning<br>• *MOOC<br>• massive open online courses<br>• web-based online courses<br>• web-based courses<br>• internet conducted courses |
| 11 | educative game | • game-based learn<br>• game-based learning<br>• educational game<br>• game-based education<br>• serious game<br>• gamification |

Table 2: Search string terms and synonyms.

**Figure 4.8** - Oliveira et al. (2018:42-43) – Table that lists eleven Search String Distribution interpretations between “Main Terms” and “Synonymous Terms”.

This study is based on existing research and recent investigations into various types of Flow, including Clutch. However, the primary definition of Flow as an optimal experience remains

unchanged. The current research shows the need to expand and understand this human condition to control and improve it. The sports industry, where the term "Clutch" was coined, appears to be conducting more extensive research than the education sector. The education aspect of Flow is mostly researched in conjunction with games and e-learning and not so much in a classroom setting.

After evaluating the Flow Scale models discussed above, EduFlow was selected as the most suitable model for this research. This model is specifically tailored for educational settings, making it well-suited for this purpose. Previous models were found to have certain shortcomings that required modifications. Still, EduFlow appears without any major tweaks, which may indicate that it is already satisfactory or has not been extensively tested.

## 4.10 QUESTIONNAIRE DATA ANALYSIS

In Chapter 6, the analysis of data results helps determine if there is Flow after each set of lessons. The Controlled and VAMP-infused groups were given seven EduFlow questionnaires translated into Greek. The data from each group's questionnaire is compared to determine if the VAMP-infused groups experience more flow than the control groups.

The EduFlow 12-point Likert-scale questionnaire analysis was conducted based on the grounded theory as proposed above. After a set of lessons, the seven questionnaires' data were evaluated and analysed based on Heutte's (2017) proposed diagram (Figure 4.9). The diagram interpretation implies that when Flow dimensions (1-3) - The Cognitive absorption, Time transformation and Loss of self-consciousness are achieved, then Flow Dimension D4 - Autotelic experience (well-being), which indicates Flow is achieved.

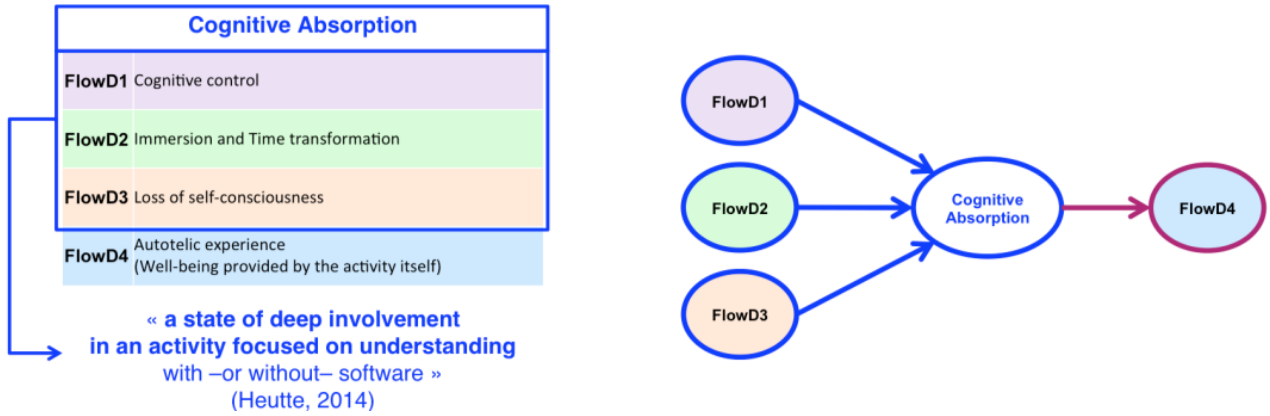



**Figure 4.9** - Cognitive Absorption Modelling (Heutte 2017) found in Mawas and Heutte (2019:499).

The data phase of the research was conducted manually by collecting the hard copy questionnaires filled out by the students who consented to do the research. The data results are coded with the student number and are presented in an Excel sheet for each questionnaire in every group. Each questionnaire will be presented with a short note of the teaching process and the different Visual Augmented Music Pedagogy (VAMP) approaches used in that specific set of lessons before completing the questionnaire. An initial table of the questionnaire and each answer's scores will be first presented to give an overall image of the scores between the Control groups (B1 and B3) and the VAMP-infused groups (B2, B4 and B5) as seen in an example given in Figure 4.10.

| **Questionnaire 1** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 5.4 | **6.3** | 5.2 | **6** | **5.6** |
| Question 2 | 5.5 | 5.5 | 4.6 | 5.2 | 5 |
| Question 3 | 5 | **6** | 4.8 | **6.2** | **5.6** |
| Question 4 | 4.3 | **5.6** | 4.1 | **5.3** | **5.1** |
| Question 5 | 5.2 | **6.4** | 4.2 | **5.6** | **6** |
| Question 6 | 4.7 | **5.6** | 5 | **5.6** | 5.2 |
| Question 7 | 3.8 | **5.7** | 4.7 | **4.8** | **6.1** |
| Question 8 | 4.5 | **5.9** | 4.7 | 4.7 | **6.3** |
| Question 9 | 3.9 | **6** | 5 | 4.7 | **6.3** |
| Question 10 | 4.5 | **6.3** | 3.3 | **5** | **6** |
| Question 11 | 4.2 | **6** | 3.8 | **4.7** | **5.3** |
| Question 12 | 2.7 | **4.7** | 3.3 | **4** | **4** |

**Figure 4.10** – An example of the table showing the answers to each 12-item Likert Scale questionnaire. Questions 1-3 (Dimension 1), Questions 4-6 (Dimension 2), Questions 7-9 (Dimension 3) and Questions 10-12 (Dimension 4). The blue highlight indicates a higher score.

All the raw data of all questionnaires by the group is available in an Excel form in the Appendixes section 6.2. To make it easier to understand, the analysis of each questionnaire

is separated into four sections according to the 'Cognitive Absorption Modelling' diagram created by Heutte (2017). Figures 4.11 and 4.12 visually represent Heutte's Cognitive Absorption Modelling, making an easy comparison between the Control and the VAMP-infused groups. The augmented version of each dimension is also available in Appendixes section 6.3. Please note that the data was collected via Microsoft Excel; the larger circles on the graph symbolise a higher quantity of responses. At the same time, a vertical position closer to the top of the chart correlates with a stronger score in that specific category.

In Chapter 6, in order to supplement the EduFlow questionnaire, a 'Teacher Notes' section aims to highlight the teacher's perspective and offer valuable insights and discussions of each set of sessions as it was taught and perceived by the students. Additionally, this research aims to determine if creating a Flow classroom environment by teaching music visually can help individuals learn how to balance skill and challenge outside of the classroom, ultimately leading to a sense of flow in everyday life.

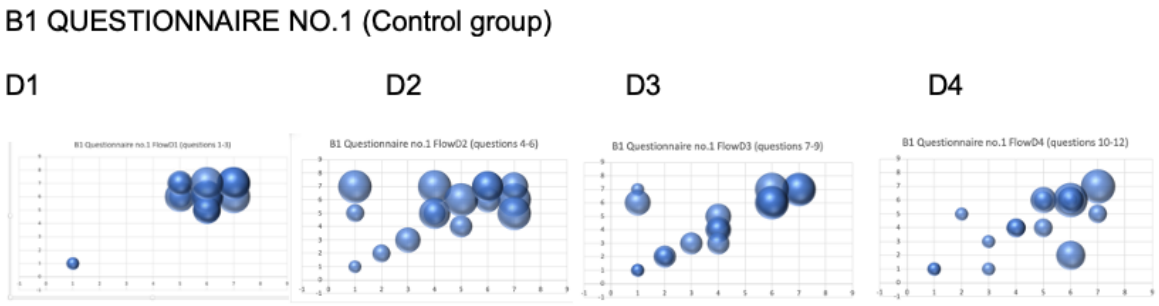



**Figure 4.11** – Visual representation of the results in Questionnaire No. 1 from the Control group B1 divided by Dimensions 1- 4.

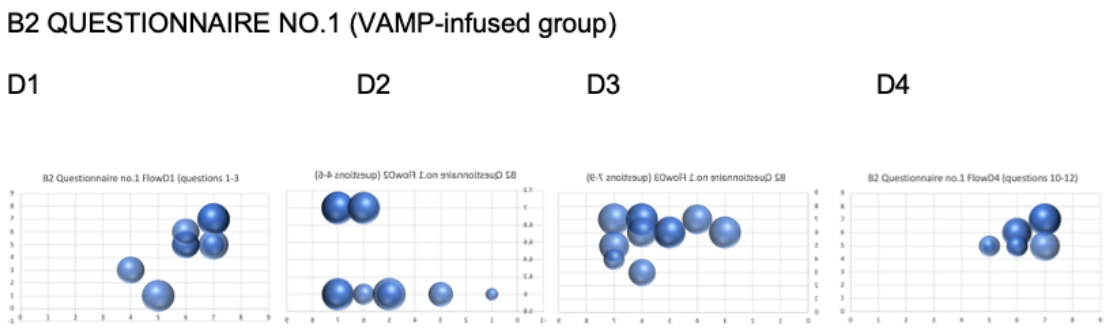



**Figure 4.12** – Visual representation of the results in Questionnaire No. 2 from the VAMP-infused group B2 divided by Dimensions 1- 4.

## CONCLUSION CHAPTER 4

Overall, this chapter provides an in-depth description of the methodology employed in this study, highlighting the integration of mixed methods research, qualitative and quantitative data collection and analysis techniques, and the utilisation of established scales and questionnaires. The preferred method in this study is EduFlow, a comprehensive scale specifically designed to assess Flow experiences in educational contexts. These methodological choices aim to understand how Flow experiences in music education can be created and evaluated and their potential future development for educational in-classroom practices.

# CHAPTER 5 – APPLICATION

This chapter establishes the research's structural context wherein the curriculum for my classes during the academic year 2021-2022 was transformed into a Visual Augmented Music Pedagogy (VAMP) iteration. It also examines the segmentation of these classes into the Control group and the VAMP-infused group. The chapter delves into essential instructional methods, encompassing listening, performance, and kinetic/dance activities. Furthermore, it presents the seven questionnaires developed based on lessons provided by the Cyprus Education Authorities, elucidating the adjustments made to accommodate both the Control and the VAMP-infused groups.

All given Questionnaires are the same and are based on Heutte et al. (2014:32) EduFlow questionnaire, translated into Greek. After a set of lessons, the same questionnaire will be given to all classes in order to record possible Flow. The seven sets of lessons are as follows: 1. Revision session, 2. Zeibekiko dance, history, music, performance, 3. Basic of Rock music, history, and performance; 4. Popular music, history, performance, 5. Opera, Mozart and Classic Period, history, singing, performance, 6. Byzantine music, history, basic symbolism, singing, composing and 7. Tarantella dance, history, music technology and performance.

## INTRODUCTION

"Ironically, enjoyment of a given class is not only intrinsically rewarding, but it gets students better grades as well. Flow in school is more than its own reward; it brings external rewards in its wake" (Csikszentmihalyi and Larson 1984:258).

Before Flow theory was established, the initial theoretical model of Flow was tested by Mayers (1978) and was based on seventy-five adolescent students. These students were asked to rank their favourite activity in the classes they took in school on ten items, each measuring

one dimension[18] of the Flow experience. Not surprisingly, in its majority, the highest scores were given to activities involving friends; by contrast, school classes scored poorly. There were, however, few school classes (in a variety of subjects) that scored highly, indicating that those adolescents enjoyed a specific class as much as their favourite activity (Csikszentmihalyi and Larson 1984:253). Despite the huge differences in the activities:
"…the underlying reason for enjoying them was the same: when involved with the activity, they experienced psychic negentropy. Playing football and playing the violin are certainly very different, but in both cases, what motivates the player to play is the ordered state the activities create in consciousness" (Csikszentmihalyi and Larson 1984:251).

Flow is created when the balance between the challenge and the skills is achieved in an activity. Students feel overwhelmed and anxious when an activity presents too many challenges and opportunities for action. On the other hand, when skills outweigh the challenges, the students feel bored (Csikszentmihalyi and Larson 1984:251-252). Critics might claim that if adolescents enjoy themselves too much, nothing will be done. On the contrary, Csikszentmihalyi's and Larson's (1984) research has shown that assumptions such as only leisure provides enjoyment, and that enjoyment is the form of pleasure is neither true (1984:260). Thus, Flow experience does not produce passive contentment of pleasure; instead, it drives someone to increasingly complex states of consciousness. These experiences will help towards a more permanent and stable structure of the self, thus allowing teenagers to successfully resist the onslaught of chaos in later life (Csikszentmihalyi and Larson 1984:260).

"Every work of art is the child of its age and, in many cases, the mother of our emotions. It follows that each period of culture produces an art of its own which can never be repeated. Efforts to revive the art-principles of the past will at best produce an art that is still-born" (Kandinsky 1914:1).

In the above quote, Kandinsky observes that although art forms should borrow, interact, and co-exist simultaneously, each work of art to be artistically alive should represent the inner expression of a moment of one's existence in a specific period of culture. This is a very important point for educational purposes when teaching music and art through old principles and rules while encouraging new and current ways of expression. From my perspective of

[18] There are four dimensions in Flow: The Cognitive absorption (FlowD1); Time transformation (FlowD2); Loss of self-consciousness (FlowD3); Autotelic experience (well-being) (FlowD4).

teaching music in a classroom setting, it is important to embrace Kandinsky's above quote and find ways and ideas to capture the current *period of culture* and the wandering minds of my adolescent students.

Visually Augmented Music Pedagogy (VAMP) intends to incorporate Csikszentmihalyi's Flow and Kandinsky's approach to enjoying art holistically in the music curriculum, with an emphasis both on the visual experience of the taught classes. This will be achieved by trying to create an environment in which the nine conditions of Flow can be achieved by balancing Challenge and Skill:

1. **Goals Are Clear –** One Knows at every moment what one wants to do.
2. **Feedback is Immediate –** One knows at every moment how well one is doing.
3. **Skills Match Challenges –** The opportunities for action in the environment are in balance with the person's ability to act.
4. **Concentration Is Deep –** Attention is focused on the task at hand.
5. **Problems Are Forgotten –** Irrelevant stimuli are excluded from consciousness.
6. **Control Is Possible –** In principle, success is in one's hands.
7. **Self-Consciousness Disappears –** One has a sense of transcending the limits of one's ego.
8. **The Sense of Time is Altered –** Usually, it seems to pass much faster.
9. **The Experience Becomes Autotelic –** It is worth having for its own sake. (Csikszentmihalyi 2014a:133 emphasis added).

### 5.1 RESEARCH DIVISION OF TAUGHT CLASSES

The academic year that this research was conducted was during COVID-19 virus epidemic from September until June 2021-2022. The research took place at a Gymnasium level (equivalent to the UK's Grammar school/High school level) in an inner-city school in Nicosia, the capital of Cyprus. The three-year level school Gymnasium stage is divided into stages A, B and C. Stage A involves ages 12-13, Stage B 13-14 and Stage C 14-15. In Cyprus, education is compulsory until age 15, and homeschooling is only allowed in very rare cases when the child is diagnosed by a team of doctors and psychologists who prove that it is best to be homeschooled for the child's benefit. Even when such permission is granted, a team of selected taught subject teachers visits the student at their residence. Unfortunately, the lack of resources and staff means that in these cases, the curriculum is limited only to subjects

such as Maths, Modern Greek, History and Biology (the only main subjects of exams at the Gymnasium level). As this is quite rare, in the school where this research was conducted of approximately 300 students[19], only one student (during the academic year 2021-2022) was homeschooled. As Chapter 3 mentions, Cyprus' culture encourages education, which is evidence of good parenting skills and investment in education at all levels, even if the job opportunities might favour less educated youth. However, this particularly inner-city school has the blending of many cultures and socioeconomic backgrounds; despite possible encouragement from their parents, sometimes the students might need extra persuasion and encouragement to believe they are capable of further studies.

As a deputy head teacher in the school where the research was conducted, I had a total of fourteen contact hours during the academic year 2021-2022. My classes consisted of:
- One class in Stage A, which met for two hours per week
- Five classes in Stage B, each meeting for two hours per week
- Two classes in Stage C, each meeting for one hour per week.

At the school, I taught all five Stage B classes during the academic year 2001-2022, which is why I chose this stage for my research. I have applied VAMP-infused lessons in three out of the five. The selection was made at the beginning of the academic year at random, starting with Control for B1, VAMP-infused for B2, Control B3, and VAMP-infused for B4 and B5 All the taught lessons – VAMP-infused and controlled groups - are based on Cyprus' secondary music school curriculum (Cyprus Ministry of Education 2017). The curriculum sets the guidelines for aims and outcomes. It allows the teacher to adopt them according to their personal teaching style and background, as there is no book but only a handful of suggested guided sample lessons.

## 5.2 VISUALLY AUGMENTED MUSIC PEDAGOGY (VAMP) ADAPTATION IN THE CURRICULUM

The lessons in the control groups will follow the 'traditional' teaching methods, such as listening and performing, without any extra visual activity. The difference in the VAMP-infused

[19] Four Classes of approximately 23 students in A Stage, Five Classes of approximately 22 students in B Stage, and Four Classes of approximately 21 students in C Stage.

lessons is the combination of extra visual and kinetical approaches to each lesson that aims not only to enhance the knowledge aspect of each lesson but also to enhance the visual experience of the taught students.

After completing a set of lessons, the students are asked to fill out the EduFlow questionnaire (Heutte et al. 2014:32 and Mawas and Heutte 2019:497) (Figure 5.1 and Appendix 5.1). The Greek version of the questionnaire is in Figure 5.2 and Appendix 5.2.

EduFlow Questionnaire During a learning activity

1 2 3 4 5 6 7
(strongly disagree )……..(totally agree)

**FlowD1: Absorption Cognitive/ Cognitive absorption**

| | |
|---|---|
| 01D1a. I feel I am able to meet the high demands of the situation. | 1 2 3 4 5 6 7 |
| 02D1b. I feel that what I do is under my control. | 1 2 3 4 5 6 7 |
| 03D1c. I know what I have to do at every step of the task. | 1 2 3 4 5 6 7 |

**FlowD2: Time transformation**

| | |
|---|---|
| 04D2a. I am totally absorbed in what I am doing. | 1 2 3 4 5 6 7 |
| 05D2b. I am deeply concentrated on what I'm doing | 1 2 3 4 5 6 7 |
| 06D2c. I don't notice the time passing. | 1 2 3 4 5 6 7 |

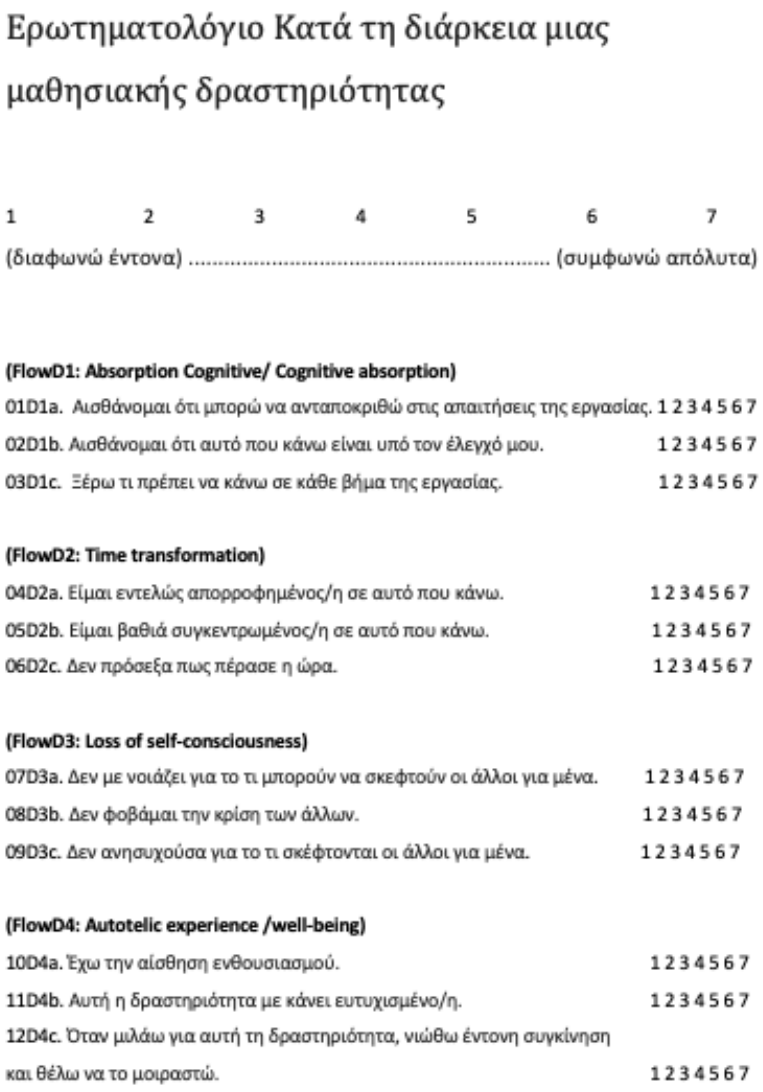
**FlowD3: Loss of self-consciousness**

| | |
|---|---|
| 07D3a. I didn't care about what the others could think of me. | 1 2 3 4 5 6 7 |
| 08D3b. I don't fear the judgment of others. | 1 2 3 4 5 6 7 |
| 09D3c. I was not worrying about what the others think about me. | 1 2 3 4 5 6 7 |

**FlowD4: Autotelic experience (well-being)**

| | |
|---|---|
| 10D4a. I have the feeling of living a moment of excitement. | 1 2 3 4 5 6 7 |
| 11D4b. This activity makes me happy. | 1 2 3 4 5 6 7 |
| 12D4c.When I talk about this activity, I feel a strong emotion and I want to share it. | 1 2 3 4 5 6 7 |

**Figure 5.1** – EduFlow questionnaire as found in (Heutte et al. 2014:32 and, Mawas and Heutte 2019:497).



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

**(FlowD1: Absorption Cognitive/ Cognitive absorption)**

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

**(FlowD2: Time transformation)**

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

**(FlowD3: Loss of self-consciousness)**

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

**(FlowD4: Autotelic experience /well-being)**

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 5.2 -** EduFlow questionnaire translated into Greek.

The questionnaire is always the same and is given to all classes to compare the VAMP-infused lessons with the Controlled ones. This questionnaire is based on Heutte et al. (2014) study regarding the four dimensions for assessing optimal learning environments. The four dimensions it measures are:

- FlowD1: *Cognitive absorption*—increased concentration and immersion in the task.
- FlowD2: *Time transformation*—alteration in the perception of time, sometimes leading to a lengthened duration of immersion in the task.
- FlowD3: *Loss of self-consciousness*—lack of self-concern related to the increased importance of the psycho-social dimension of learning.

- FlowD4: *Autotelic experience*—well-being during task performance resulting from purpose in the task itself that enhances persistence and the desire to engage in the activity again.

Each set of VAMP lessons may have different activities, but they all culminate in a corresponding questionnaire. The lessons will primarily focus on two activities: Listening and Performing. The VAMP adaptation of analytical listening, as described by Csikszentmihalyi (1990:111), will be the main emphasis. All examples will also feature a visual component. In order to incorporate visual aspects into these activities, each lesson will be adjusted accordingly.

## 5.3 BASIC TEACHING MODES

### LISTENING

"Listening to music, playing instruments, singing, and composing all demand full sensory presence, and there is a tacit awareness of our role in shaping each musical moment". (Csikszentmihalyi and Custodero, in Sullivan et al. 2002: xiv-xvi)

According to Csikszentmihalyi (1990), music can be described as structured auditory information that aids in the organisation of the mind that attends to it. "Listening to music wards off boredom and anxiety, and when seriously attended to, it can induce Flow experiences… It is not the hearing that improves life, it is the listening. We hear Muzak, but we rarely listen to it, and few could have ever been in flow as a result of it" (1990:109).

For Csikszentmihalyi, there are three basic skills of listening: as a **sensory experience**, as an **analogic mode of experience** and as an **analytic mode of listening**. The **sensory experience** starts just by listening to music. Listening at this first stage, one responds to the qualities of sound that induce the pleasant physical reactions genetically wired into our nervous system. Csikszentmihalyi believes that we all respond to the universal appeal of certain chords "or to the plaintive cry of the flute, the rousing call of the trumpets" (1990:110). The next level is the **analogic mode of listening**, which develops the skill to evoke feelings and images based on sound patterns. Csikszentmihalyi (1990:111) provides examples of how

music can evoke certain feelings or images in our minds. For instance, a mournful saxophone can remind us of the awe we feel when watching storm clouds gather over the prairie, while a Tchaikovsky piece might make us imagine a sleigh ride through a snowy forest with jingling bells. Popular songs often use lyrics to cue listeners to the intended mood or story of the music.

For Csikszentmihalyi, the most complex stage of music listening is the **analytic one**. Here the listener's attention shifts to the structural elements of music instead of the sensory or narrative ones. In this mode, listening skills require recognising the order underlying the work and its harmony. Additionally, it is possible to assess the performance and acoustics of a piece of music and make comparisons with earlier and later works by the same composer or with the work of contemporaneous composers. It is also possible to compare the orchestra, conductor, or band with their own past and future performances or with the interpretations of others. As one improves their analytical listening abilities, the enjoyment of music can grow exponentially. (Csikszentmihalyi 1990:111).

Veloso et al. (2019:63), in a programme for music appreciation introduced in primary schools, introduced music-listening activities in an application called Orelhudo[20]. Findings suggest that this application is used in the classroom context in a holistic and cross-curricular approach, along with activities intended to prompt personal expression, communication, and creativity. According to Veloso et al. (2019:63), this can help children connect to Orelhudo, demonstrating their music-listening skill development. Also, findings suggest that the meanings created by children during these specific listening and appreciation activities might lead them to cope better with their inner and outer worlds while also developing reflective and critical thinking.

Appreciating arts holistically, as suggested by Kandinsky (1914), along with Csikszentmihalyi's (1990) exploration of the above modes of listening in a classroom setting, this research aims to stimulate Flow. Listening is part of all my classes' curriculum. The difference is that in the VAMP-infused classes, a visual activity is also injected in the form of video, movement, dance

[20] Orelhudo (Big Ears) – Is an application that was created by the educational service of Casa da Música, as a pilot program for music appreciation to be used in a specific primary school in Portugal.

and so on. Thereby following Kandinsky's suggestion that when music is experienced holistically, it can create *Transcendence*.

**PERFORMING**

Csikszentmihalyi (1990:111) explained that listening to music can induce a state of Flow, but he also acknowledged that there are even greater benefits to be had from learning how to make music. Throughout history, creating harmonious sounds has been highly esteemed and linked to the civilising power of mythical figures like Apollo, Pan, and Orpheus. These legends suggest that the ability to produce musical harmony is connected to the more abstract concept of social order, that we call civilisation. "Mindful of that connection, Plato believed that children should be taught music before anything else; in learning to pay attention to graceful rhythms and harmonies their whole consciousness would become ordered" (1990:111).

One of the best examples of describing Flow is the process of playing a musical instrument. The musician has a clear goal of the result, how a piece of music should sound, and in the process, is correcting and improving themselves by hearing their performance. This clarity of goals and the immediate feedback keep the musician's attention and focus. Therefore, after the end of a set of lessons in all taught classes, the activity of performing and recording the performance is essential. This activity forces the students to concentrate and do their best, knowing they must listen and critique their group recordings as a classroom. These recordings are available but are not used as part of the research because they primarily are used as a revision of each set of lessons, getting students ready to perform, documenting their performance with the recording, having the chance to listen to themselves, and then fill the questionnaire, all in one lesson. This activity is done in all groups. The end-of-lesson audio recording helps students prepare for performance and review material to complete the questionnaire accurately.

Playing a musical instrument or singing is a crucial part of the "Performing" aspect of the research. It can play a significant role visually, and mimicking and play-acting can be used to exaggerate some activities in the VAMP-infused lessons. This will also be used as a visual experience and as a way of overcoming reservations that the students often have when performing in front of a class. Furthermore, any form of movement can be used as a visual classroom experience to push the students outside their comfort zone.

Teenagers are very self-conscious. This is obvious, especially in the school environment. “This self-consciousness in the classroom is one of the reasons why they don’t process the information the teachers give, because there is this barrier of the attention being spent trying to look smart or look cool or look whatever. That takes away the attention that, ostensibly, should be used to process information” Csikszentmihalyi (2014a:136-137).

Getting the students to forget their self-consciousness and step outside their comfort zone is a constant battle for every teacher. Simple activities such as singing and performing become huge obstacles in the eyes of adolescents. According to Csikszentmihalyi, one of the outcomes of Flow is that ego and self-consciousness disappear. “But there is an interesting paradox there because, after an experience of flow, people experience their own self as being stronger and more vital than it was before” Csikszentmihalyi (2014a:137).

Russo-Netzer and Cohen (2022) suggest that stepping outside one's comfort zone repeatedly can bring about positive results. Not only can it lead to improvements in therapeutic, organizational, and educational programs, but it can also help individuals break free from harmful routines and achieve greater life satisfaction. Additionally, it can also enable individuals to confront challenging issues in their lives, develop new friendships, provide support to others, and become socially vulnerable – “all possible consequences arising from the heightened sense of efficacy that may come from stepping outside their comfort zone” (Russo-Netzer and Cohen 2022:14).

## 5.4 ADDITIONAL MODES OF TEACHING IN VAMP-INFUSED LESSONS – KINETIC/DANCE AND DRAWING

“Designing experiences which are diverse and inclusive enough to cultivate that pursuit in each individual requires a high level of creative thinking on the part of all music educators” (Csikszentmihalyi and Custodero, in Sullivan et al. 2002:xvi).

Teaching Music Visually in VAMP-infused lessons creates environments where the image takes a place in the holistic teaching experience. The VAMP technique, inspired by Kandinsky

(1914), combines art forms to create a multi-sensory visual experience in the classroom, incorporating drawing, watching, moving, dancing, and performing.

According to Csikszentmihalyi and Custodero (Sullivan et al. 2002:xv), creative music-making is a highly complex and rewarding experience open to human beings. This is because we receive feedback through both aural and often at times kinaesthetic, which help us evaluate the outcomes of our choices.

King's (2022:13) study of using mixed methods for teaching music creativity in an elementary school, such as dance, showed that it helped the creative process of learning, inspired the imagination and the experience, facilitated a creative process in the classroom, maximised the outcomes and fostered self-directed learning. Regarding the joys of movement, Csikszentmihalyi (1990:99) believes that sports, fitness, and dance can generate Flow. Also, there is a mention of other forms of expression that use the body as an instrument, such as miming and acting. Activities such as charades parlour game are popular and can create Flow because it allows people to shed for a time their customary identity and act out different roles. "Even the most silly and clumsy impersonation can provide an enjoyable relief from the limitations of everyday patterns of behavior, a glimpse into alternative modes of being" (Csikszentmihalyi 1990:100).

Using additional modes of teaching such as movement/kinaesthetic and drawing, the research aims to enrich and 'design experiences' in a classroom setting. These methods not only provide visual aids but also help to minimise distractions and promote concentration. Csikszentmihalyi (2014a:135) believes that unclear tasks and lack of progress tracking can hinder concentration. Therefore, it is important to understand what needs to be done and track progress to maintain focus. The VAMP-infused curriculum, which incorporates visual and kinaesthetic elements into music teaching, also helps to maintain students' focus.

The VAMP-infused groups utilise drawing as a means of visual experience and self-expression rather than solely for recording personal notation. In 2014, Montarou utilised drawing to achieve a state of Flow. During his four decades teaching career as an art teacher of rapid life-drawing sketches (known as croquis drawings), he realised that incorporating the concepts of mindfulness and Flow into a broader understanding of drawing managed to include also the cognitive, psychological, and philosophical aspects of art (2014:3).

Research on the expression of art among children until adolescence found subtle misunderstandings about the artist's role. For instance, Freeman and Sanger (1993) found that through painting, one can trace the difference between children to adolescents and trace the developmental progression of the mind and the knowledge of the external world (Winner 2006:327-328). Winner believes that research on drawing has focused on production, whereas research on music has focused on perception. “This asymmetry may be because the earliest music children produce is a song rather than notated compositions. Songs are fleeting, while drawings are permanent and thus perhaps more amenable to study” Winner (2006:322).

Han (2016) suggests that drawing while listening to music can enhance the overall listening experience for students. This is because the personal interpretation of the music can be reflected in their drawings. Additionally, the act of drawing can also improve students' understanding of the music, add information on the objectives of drawing activities, various types of drawing responses, and the expressive qualities found in students' drawings (2016:12).

## 5.5 SET OF LESSONS TAUGHT FOR EACH QUESTIONNAIRE

The research is designed to document possible Flow using a Questionnaire after a set of sessions based on the general curriculum. These sessions might take up to three lessons completed in two to three conduct hours, depending on the subject or sometimes general class interactions outside the teaching schedule. Each questionnaire based on Heutte et al. (2014:32) EduFlow is translated into Greek and is given as a hard copy to fill in after the last lesson of the seven taught sessions. All consenting research students in both Control and VAMP-infused groups complete the questionnaire, the process takes up to ten minutes. The forthcoming paragraphs will delve into the specifics of the adaptations made to the curriculum for the Control and VAMP-infused groups, as well as the delivery and progression of the lessons.

**5.5.1 Questionnaire 1** (2 lessons) Revision on reading and playing notes on G clef on the student’s keyboards. Given piece, Prelude and Fugue in C Major, BWV 846 – Only the bass line of metres 1-19 of the Prelude. The end task in all groups, VAMP-infused and Control, is to record the class accompanying the piano playing the bass line on their keyboards.

At least the first couple of lessons at the beginning of every academic year are a general revision of the previous knowledge. Although the students were all taught how to perform simple melodies on G clef the previous year at the beginning of September, they all need a revision. To make the revision more enjoyable and to discard the myth among students that 'Classical' music is difficult and unachievable to perform with minimum musical knowledge, the bass line transposed in G clef is easy to play on their mobile devices with the application Perfect Piano (2020) (Figure 5.3).

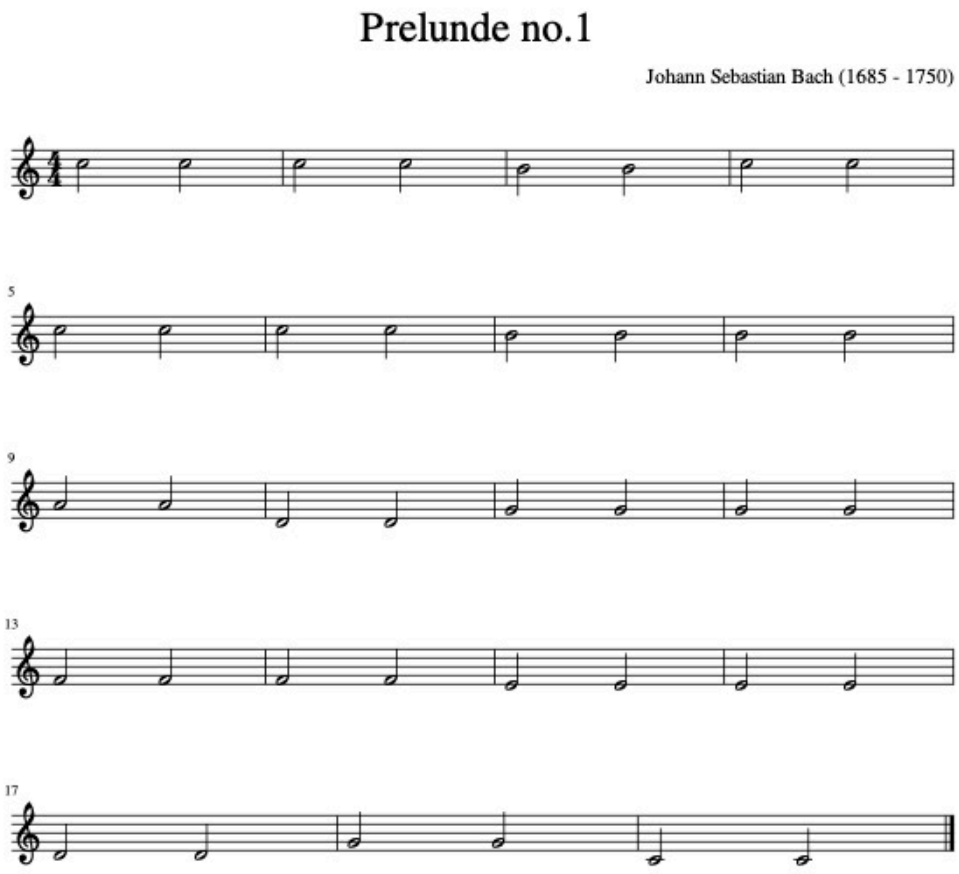



**Figure 5.3** – Simplified bass line of the original score given to the students as an accompaniment of the piano part in Figure 5.4.

The simple, minim rhythm and the repetitive notes, allow the students to concentrate on remembering the position of the notes on the G clef. The task for the students at the end of the two lessons is to accompany the teacher that plays the piano part (Figure 5.4) in a final classroom audio recording.

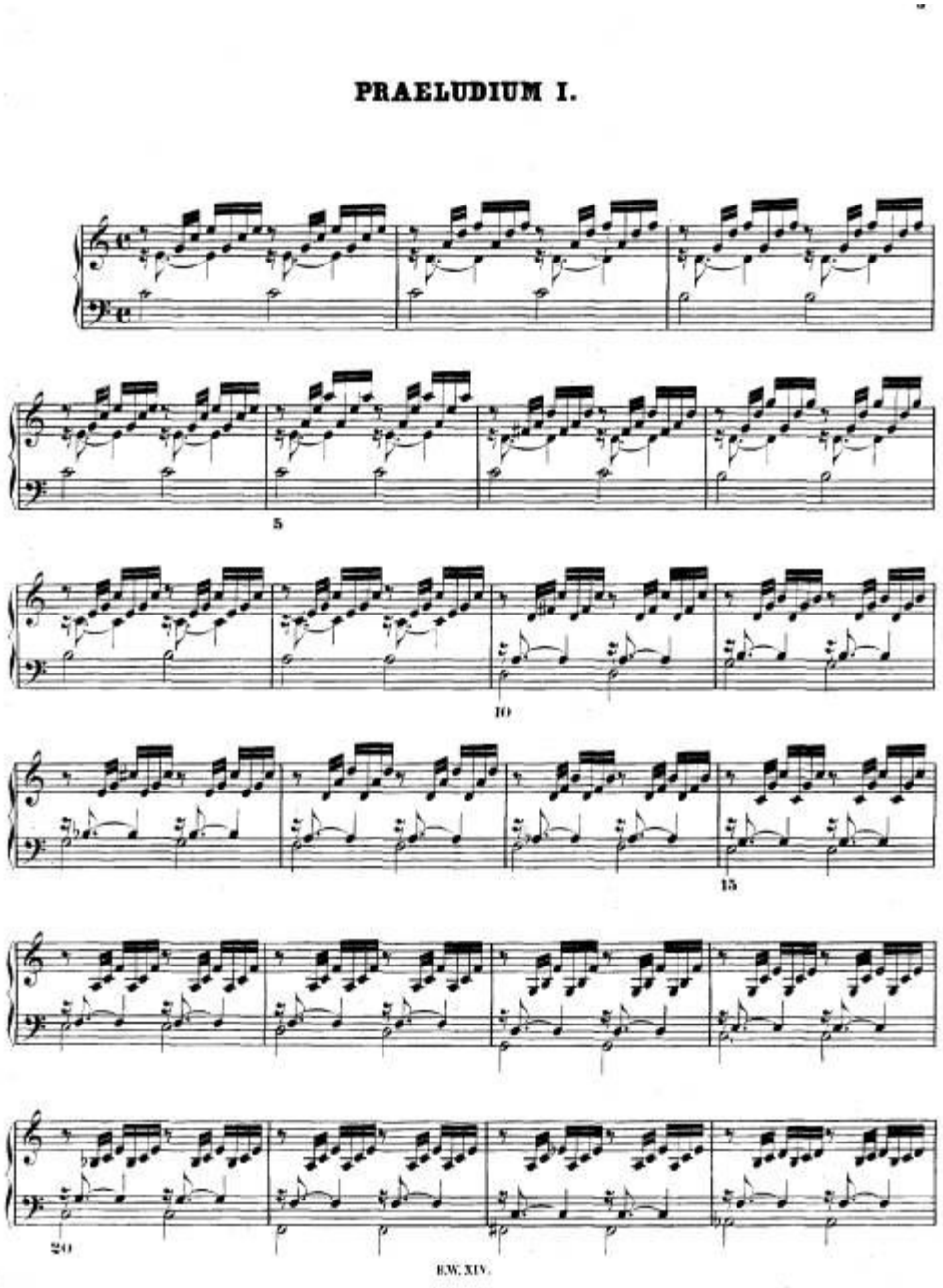



**Figure 5.4** – The score of the Prelude and Fugue in C major, BWV 846 for Keyboard by Johann Sebastian Bach (1685-1750). This is the first prelude out of a series of forty-eight preludes and fugues.

The initial approach for all the classes is to start from the beginning, explaining the G clef and the position of the notes on their mobile keyboards. Activities such as reading and singing the written notes are common in both classes, VAMP-infused and Controlled groups.

The VAMP-infused groups had the opportunity to also watch various visual displays of the piece with computer animation (Figures 5.5 - 5.8).

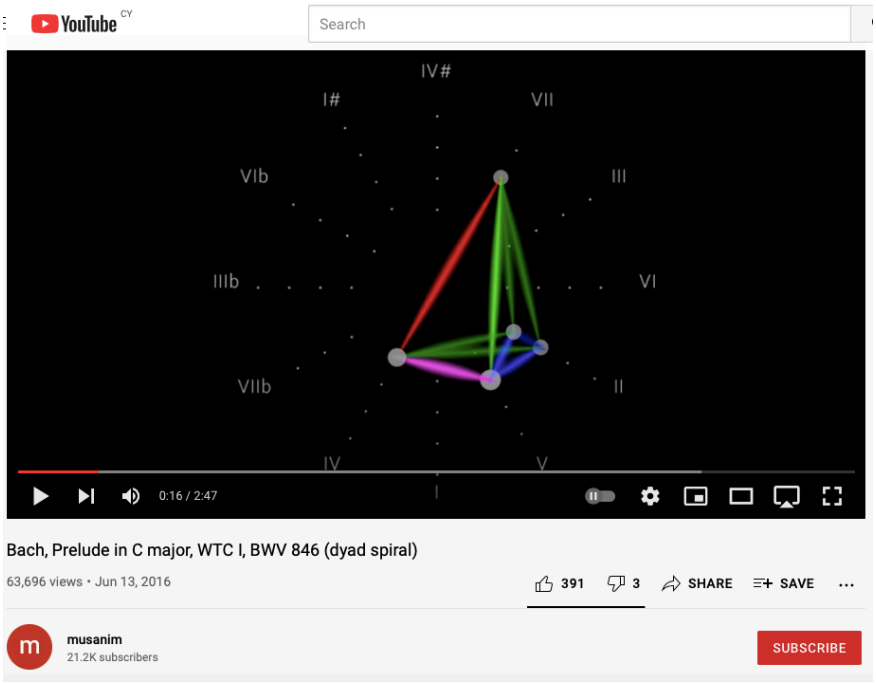



**Figure 5.5** - (Musanim 2016) – This animated adaptation of the Prelude demonstrated the Chord progression of the piece.

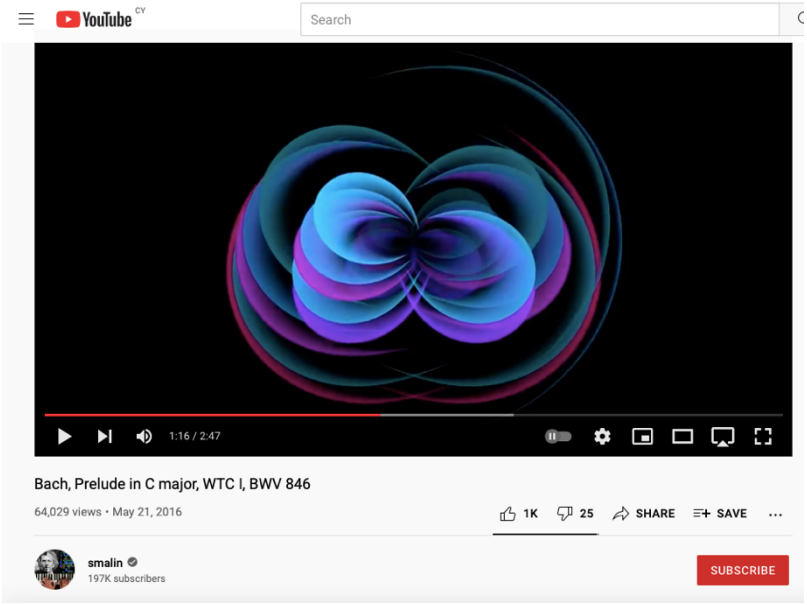



**Figure 5.6** - (Smalin 2009) – This animated adaptation of the Prelude shows a visual progression of the piece in the form of a Flower.

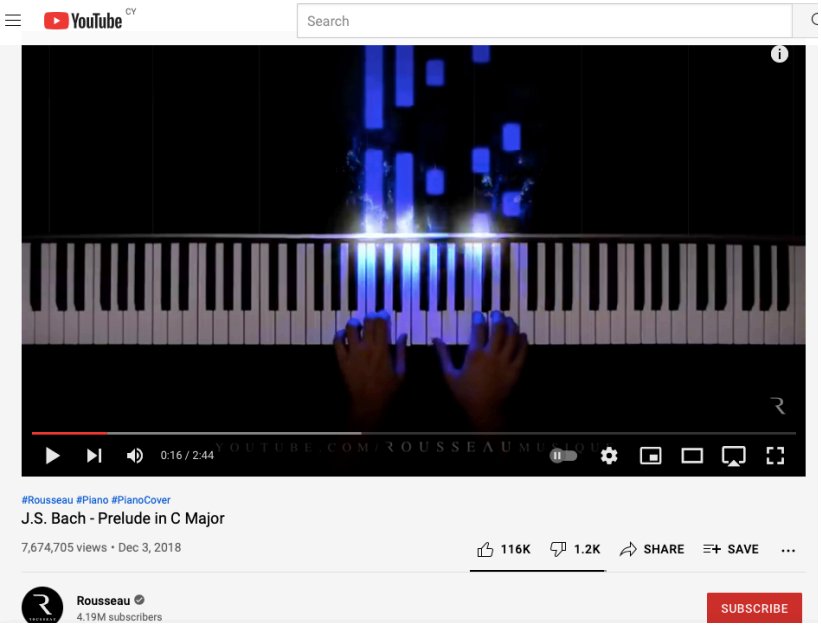



**Figure 5.7** – (Rouseau 2018) – This video demonstrated a visually actual score presented in the form of lines corresponding to different duration and the notation.

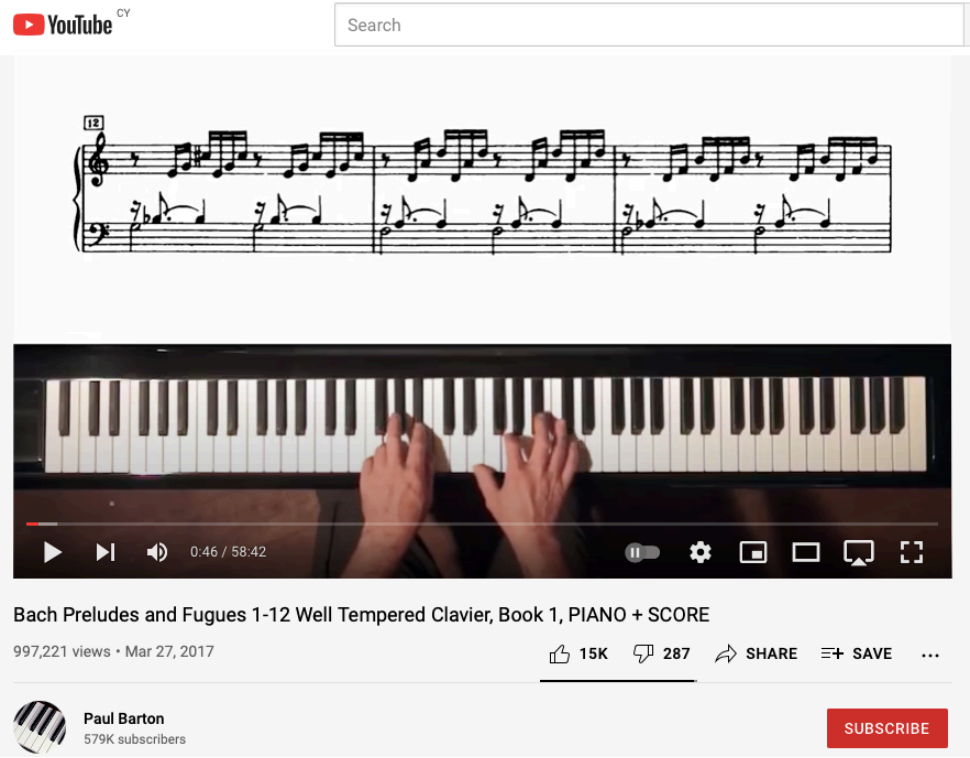



**Figure 5.8** - (Barton 2017) – This video shows the scoring and how the fingering position in the piano corresponds to the score.

These examples evoke what Csikszentmihalyi calls “analogic mode listening”. In this way, the students become familiar with the melody and, simultaneously, the various visual displays aimed to guide them towards a more comprehensive understanding of the structure and th simplicity of the composition. Also, the VAMP-infused students were asked to visualise a scene where this music could be part of the soundtrack. Many students described a scene in nature and even mentioned a river after discussing the visual display and audio representation of flowing movement from the piano score (Figure 5.4)**.**

On a more psychological level, all students in both groups were intrigued by my reassurance that by the end of the session, they would be able to accompany me by playing the bassline, breaking the stereotypical concept that ‘classical’ music is unapproachable for beginners. Also, the students in VAMP-infused had the chance to visualise the Prelude both in the videos and in their imagination. At the end of the lessons, I asked all the students to prepare to record their version of the baseline accompanying the main melody. However, I noticed that the VAMP-infused classes were more concerned about making a good recording and wanted me to repeat it several times as they were not happy with their performance. In contrast to the VAMP-infused groups, the Control groups prioritised documenting their performance over ensuring its quality. Nevertheless, their persuasion was not as obvious as the VAMP-infused groups. My interpretation is that their exposure to more graphic representations of the set piece created an agency to ‘perform’ in their recorded version.

**5.5.2 Questionnaire 2** (2-3 lessons) Learning the historical background of Zeibekiko Greek dance. Identify the rhythm from a well-known Greek song. The end task for both groups, VAMP-infused and Control, is to record their class accompanying the piano part with a bass of the rhythm on their keyboards.

The Zeibekiko dance is traced back to the Ottoman Empire in 1600 and is a freestyle solo dance based on a specific rhythm pattern: 9/4 ♪ ♩ ♪ ♩ ♩ ♪ ♩ ♪ ♩ ♩ ♩. The dance is considered a living history of Greek culture as it became popular in mainland Greece after the population exchange in 1922 between the Greeks and the Turks from the seaside cities of Anatolia after the Balkan War (1912). Today this dance is still reproduced in current popular Greek songs known as (Λαϊκό – Laiko = meaning popular).

All students had the opportunity to hear the taught song “Νύχτωσε Χωρίς Φεγγάρι” (Nixtose Xoris Feggari) written in 1947 in Zeibekiko rhythm (Figure 5.9). The history of the creation of the dance was explained in both groups, and we discussed the information given by extracts from a video (Κολοβός 2020). Also, both groups heard the song in its original recording (Ogdoo Media 2013).

Whilst listening, all students had the opportunity to clap the 9/4 ♪ ♩ ♪ ♩ ♩ ♪ ♩ ♪ ♩ ♩ ♩ rhythm. In Greek culture, clapping the rhythm whilst somenone is dancing is also considered a sign of respect and encouragement to accompany and support the person who dances (Figure 5.10).

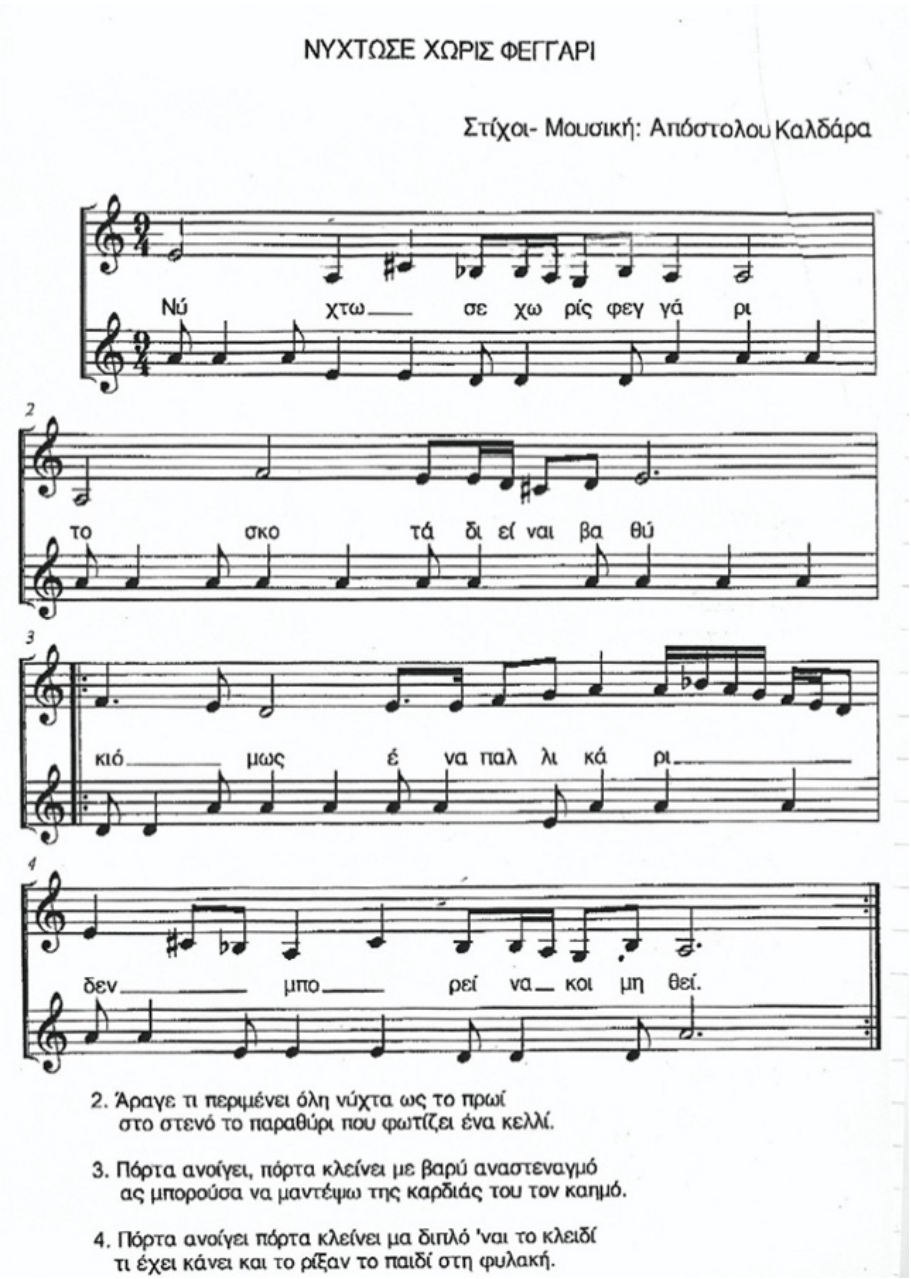


**Figure 5.9** – A two-part score of the song “Νύκτωσε χωρίς φεγγάρι”. The 2nd voice is written based on Zeibekiko rhythm.

After clapping, the Controlled groups were instructed to write the rhythm in crotchets and quavers. Afterwards, they were given a handout (Figure 5.9) and asked them to sing along with me while I played the song on the piano. Next, they recorded the song by playing the second voice on their keyboards while accompanying me.

During the VAMP-infused group's activities, the students clapped along to the original recording (Ogdoo Media 2013) while I danced my version of the Zeibekiko rhythm. I aimed to highlight the distinction between crotchets and quavers in my steps. Similar to my dancing are Figures 5.10, 5.11 and 5.12.

**Figure 5.10 -** (Greek Music Greek Songs 2009) – A man dancing Zeibekiko. Note that his party of friends clap the rhythm to show their encouragement and support, also minimise their importance by sitting crouched and giving the man the centre of the stage.

**Figure 5.11** - (Redblueguide 2014) – Drawing of a man dancing Zeibekiko and a man throwing a plate (not at him) to express his appreciation.

**Figure 5.12** - (Wichmann 2022) – Traditionally, women were not allowed to dance Zeibekiko as it was exclusively considered a dance for men. However, with the growing popularity of Greek cinema during the 1960s, where women featured dancing Zeibekiko. This became accepted as a dance for women. The picture shows the main protagonist dancing, taken from a scene in the film A Lady in Sirtaki Dance (Dalianidis 1968).

On a second listening, the students[21] in the VAMP-infused groups were asked to draw in any way it was easier for them the rhythm pattern without thinking of the music notation. Afterwards, I asked them to add the crotchets and quavers and see whether or not their drawing interpretation of rhythm contained similarities (Figures 5.13 – 5.17). Also, the VAMP-infused students watched a dramatisation of the song (Major Axis Productions 2016).

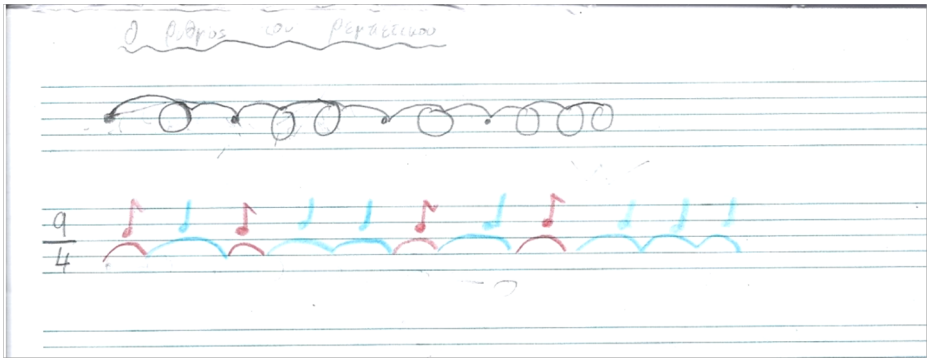


**Figure 5.13** - Student **B25546.15F** - Student's interpretation of the Zeibekiko dance in shapes and then the added rhythmic notation.

[21] Please note the coding system for student numbering. The first letter and number indicate the group, while the number/s after the decimal point indicates the student's number in the Excel sheet. For instance, B25546.15F refers to a female student in group B2 with the Excel number 15.

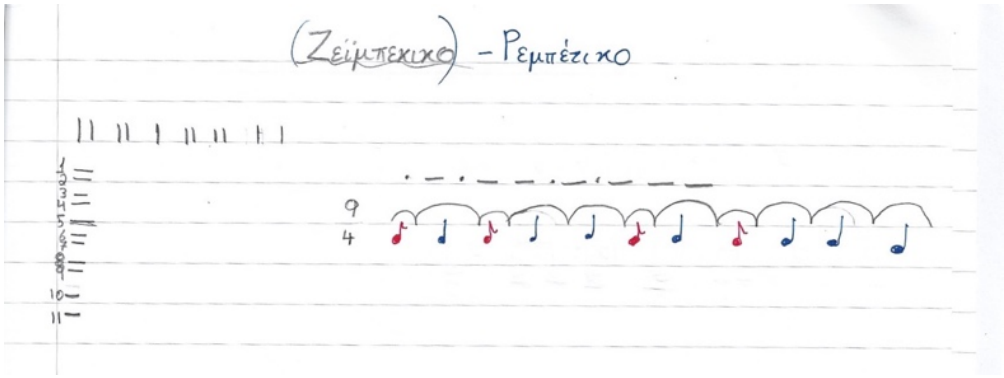



**Figure 5.14** - Student **B25538.20M** - Student's interpretation of the Zeibekiko rhythm with a dot for a quaver and a line for a crotchet.

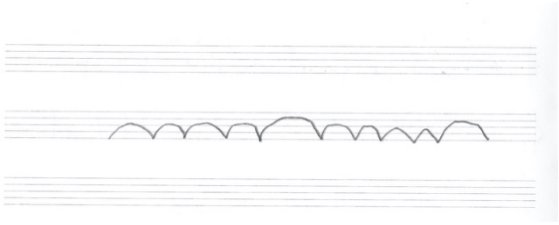


**Figure 5.15** - Student **B45556.5F-** Student's interpretation of Zeibekiko rhythm.

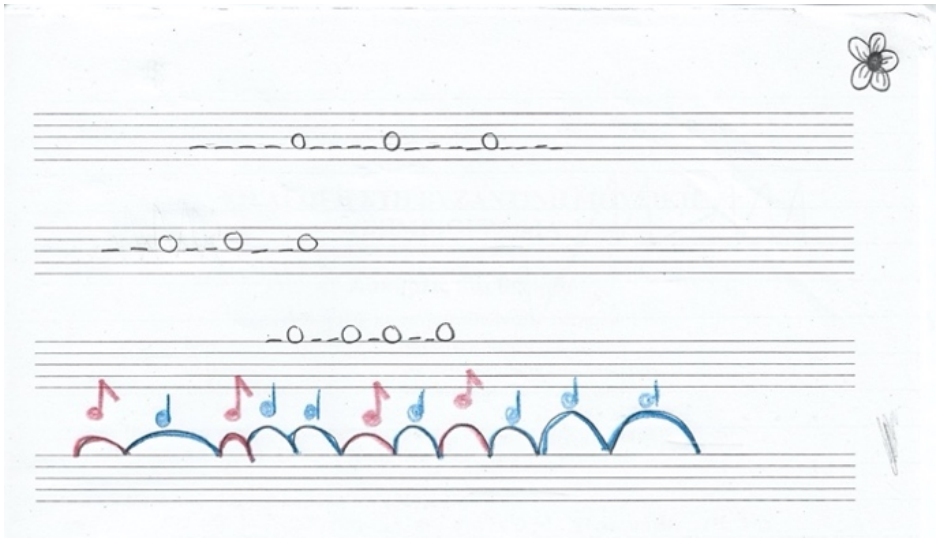


**Figure 5.16 -** Student **B55532.16F** - Student's various attempts to demonstrate visually the Zeibekiko rhythm with lines and circles.

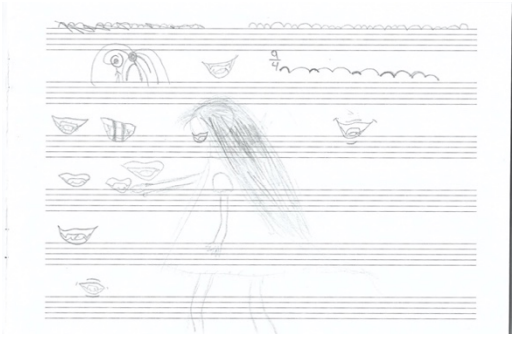


**Figure 5.17** -Student **B55575.7F** – Student's drawing of me dancing Zeibekiko after her various attempts to demonstrate visually in the rhythm in shapes.

"Educators need to develop their skills and competency by breaking their comfort zone, and individual recital of every faculty affiliate is a decisive feature in accomplishing quality for inclusive education" (Khandelwal et al. 2022:364).

As a teacher for almost three decades, I shared with my students that dancing is not something that comes naturally to me. However, I have explained that in this case, I have pushed myself to demonstrate the rhythm of the dance in any way possible. I also explained that I had to overcome the fear of being exposed publicly as a teacher. My demonstration of the dance and this brief explanation of my vulnerability exemplify pushing ourselves over the conform zone to achieve growth (Russo-Netzer and Cohen 2022). Later, I asked them to do something similar in the later stages of the research, such as demonstrated in Questionnaires 6 and 7. I have noticed that the students are very enthusiastic about my efforts, as shown in the drawing by one of the students in Figure 5.17.

**5.5.3 Questionnaire 3** (2-3 lessons) Becoming familiar with Rock music –The end task for both groups, VAMP-infused and Control, is to be able to perform and record as a class the song by singing and playing the melody. In this set of lessons, the aim was to become familiar with the history of the creation of Rock music and to be able to perform by singing and playing the simple melody of the song "Knocking on Heavens Door" (1973).

All the classes were given a handout with only the lyrics and the chords (Figure. 5.18).

## Knocking on heavens door

Το "Knocking 'on Heaven's Door" είναι ένα τραγούδι του Bob Dylan, που γράφτηκε για τη μουσική της ταινίας "Pat Garrett and Billy the Kid" το 1973. Το τραγούδι έγινε επίσης γνωστό από τα covers όπως του Eric Clapton μαζί με τον  το 1975 και των Guns N 'Roses το 1987.

**Verse 1**

**G D Am**
Mama take this badge from Me
**G D C**
I can't use it any - more
**G D Am**
It's getting dark too dark to see
**G D C**
Feels like I'm knockin' on heaven's door

**Chorus**

**G D Am**
Knock-knock-knockin' on heaven's Door
**G D C**
Knock-knock-knockin' on heaven's Door
**G D Am**
Knock-knock-knockin' on heaven's Door
**G D C**
Knock-knock-knockin' on heaven's Door

**Verse 2**

**G D Am**
Mama put my guns in the ground
**G D C**
I can't shoot them any - more
**G D Am**
That cold black cloud is comin' down
**G D C**
Feels like I'm k - nockin' on heaven's door

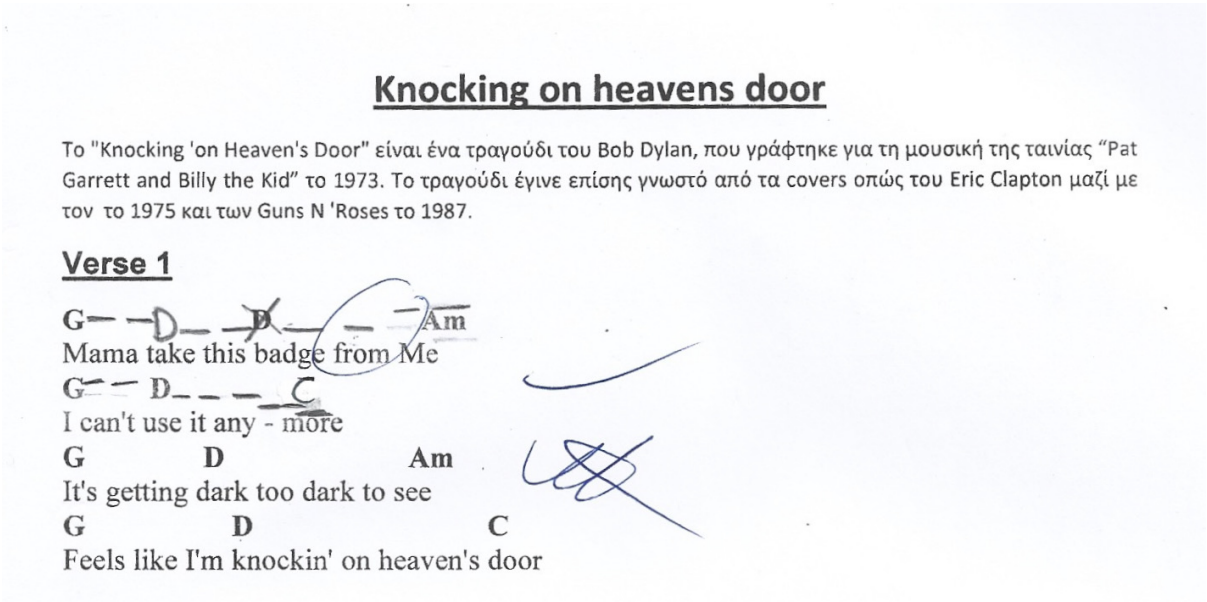
**Chorus**

**Figure 5.18** – 'Knocking on heavens door' handout. The taught chords were C major, D major, G major and A minor.

All the students in both groups watched the Guns and Roses (1988) adaptation of the song, and a discussion was made regarding the styling of the clothes and the Rock performance in a live concert.  All the classes were encouraged to play the song's main melody, by ear.

The additional activity in the VAMP-infused groups was to watch the original use of the song as part of the soundtrack of the film Pat Garrett and Billy the Kid (1973) (Castorenka 2011). A discussion was provoked regarding using the lyrics in the scene and how this version differs from the Guns and Roses adaptation. Also, the students in the VAMP-infused groups were

asked to draw above the lyrics the melodic line as they were trying to play the song by ear. By drawing at the same time as they were asked to sing the notes, it helped them to visualise whether or not the notes were going up or down. As it is often the case that they will sing correctly, but they have difficulty in explaining whether or not it is higher or lower (Figures 5.19 – 5.21)



Knocking on heavens door

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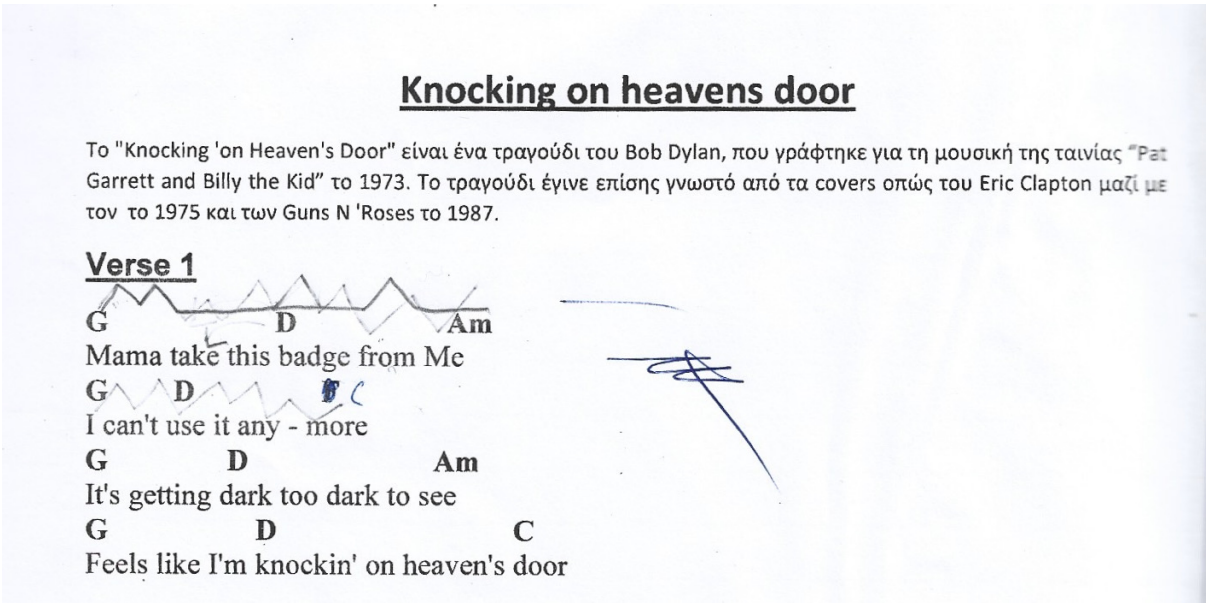
Verse 1

G D Am
Mama take this badge from Me
G D C
I can't use it any - more
G D Am
It's getting dark too dark to see
G D C
Feels like I'm knockin' on heaven's door

**Figure 5.19 -** Student **B25555.2M** - The student is using lines to indicate the direction of the melody.



Knocking on heavens door

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Verse 1

G D Am
Mama take this badge from Me
G D C
I can't use it any - more
G D Am
It's getting dark too dark to see
G D C
Feels like I'm knockin' on heaven's door

**Figure 5.20** - Student **B5600.9M** – The line above the lyrics shows the student's interpretation of the direction of the melody.

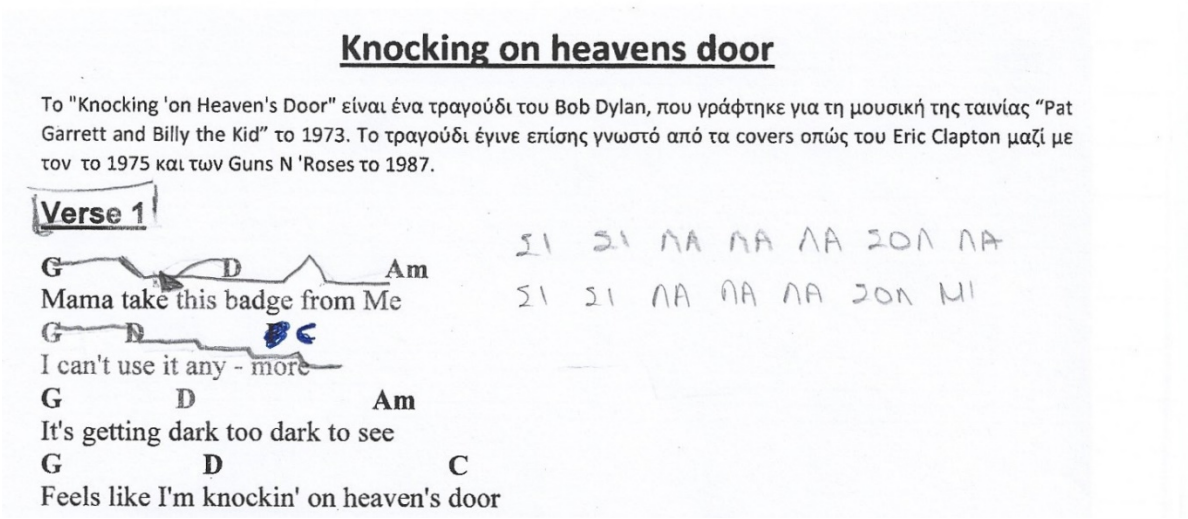



**Figure 5.21** - Student **B45541.12M** - The student's interpretation of the melody direction is shown above the lyrics.

After their performance, the entire class was recorded and then they were asked to fill out a questionnaire. During the performance, students used the Perfect Piano application (created by Revontulet Soft Inc in 2020) on their keyboards to easily play the chords. However, they also had the option of playing the melody by ear or using their own personal scoring system, which included the names of the notes in Greek (as shown in Figure 5.21).

Similar to the recording for Questionnaire 1, in this second recording for Questionnaire 2, the students in the VAMP-infused groups seemed excited to perform well for their version of the song. However, in both groups (VAMP-infused and Control), the students were reluctant to sing whilst playing, finding an excuse that it is more difficult to do both. Again, when I gave them the alternative option to perform the song only by singing, both groups were very shy and self-conscious. From my teaching experience, the majority of girls are normally more eager to sing than boys (Hall 1999, Ashley 2013, Orton and Pitts 2018), however with the use of the face mask (due to the pandemic protocol), I realised that although the boys could sing more easily, as they were not shown due to the mask, the girls found the mask as an excuse to hide their singing. Overall, both groups and genders required much encouragement to sing aloud.

**5.5.4 Questionnaire 4** (2-3 lessons) Popular music – Xmas covers, Hallelujah by Leonard Cohen (1984). The end task for both groups was to sing and record the Hallelujah song in teams of three or four students. Each team must perform their own interpretation of the song and is encouraged to sing and play together if possible. They could choose to play the melody by ear or use a portable piano application for the chords. It is important for team members to work together, leveraging each other's strengths and communicating effectively. They should use signals to keep things on track and avoid any expressions that might reveal mistakes in their performance.

All the classes sang the song and discussed the lyrics (Figure 5.22).

**Hallelujah** by Leonard Cohen

Intro: **F Dm F Dm**

**1.**

**F Dm**
I've heard there was a secret chord
**F Dm**
That David played and it pleased the Lord
**Bb C F C**
But you don't really care for music, do you?
**F Bb C**
It goes like this the fourth, the fifth
**Dm Bb**
The minor fall and the major lift
**C Am Dm**
The baffled king composing hallelujah

Chorus:

**Bb Dm Bb F C F**
Hallelujah, hallelujah, hallelujah, hallelu-u-u-u-jah ..

**2.**

**F Dm**
Your faith was strong but you needed proof
**F Dm**
You saw her bathing on the roof
**Bb C F C**
Her beauty and the moonlight overthrew you
**F Bb C**
She tied you to her kitchen chair
**Dm Bb**
She broke your throne and she cut your hair
**C Am Dm**
And from your lips she drew the hallelujah

**Bb Dm Bb F C F**
Hallelujah, hallelujah, hallelujah, hallelu-u-u-u-jah ..

**3.**

**F Dm**
Maybe I have been here before
**F Dm**
I know this room, I've walked this floor
**Bb C F C**
I used to live alone before I knew you
**F Bb C**
I've seen your flag on the marble arch
**Dm Bb**
But love is not a victory march
**C Am Dm**
It's a cold and it's a broken hallelujah

**Bb Dm Bb F C F**
Hallelujah, hallelujah, hallelujah, hallelu-u-u-u-jah ..

**4.**

**F Dm**
Maybe there's a god above
**F Dm**
and all I've ever learned from love
**Bb C F C**
Was how to shoot somebody who outdrew you
**F Bb C**
And it's not a cry that you hear at night
**Dm Bb**
It's not somebody who's seen the light
**C Am Dm**
It's a cold and it's a broken hallelujah

**Bb Dm Bb F C F**
Hallelujah, hallelujah, hallelujah, hallelu-u-u-u-jah ..

**Figure 5.22**– *Hallelujah* song by Leonard Cohen (1984), handout given to the students with lyrics and chords.

During the discussions in both the VAMP-infused and Control groups, we talked about how songs can be classified as Christmas music based on their orchestration and performance, even if the lyrics are not specifically related to Christmas. All groups also watched the performance by Leonard Cohen live in London (2009) and discussed the difference between a live performance and the difference on stage.

In addition, the students in VAMP-infused groups watched Shrek (2001), Alexandra Burke of 2008 Xfactor final (Campbell 2008), Pentatonix (2016) and Jeffrey Adam Gutt's (2013) cover of the song. There was a discussion regarding the different meanings of each performance. The VAMP-infused students were encouraged to draw symbols and sights on the handout to help them interpret the song (Figure 5.23).

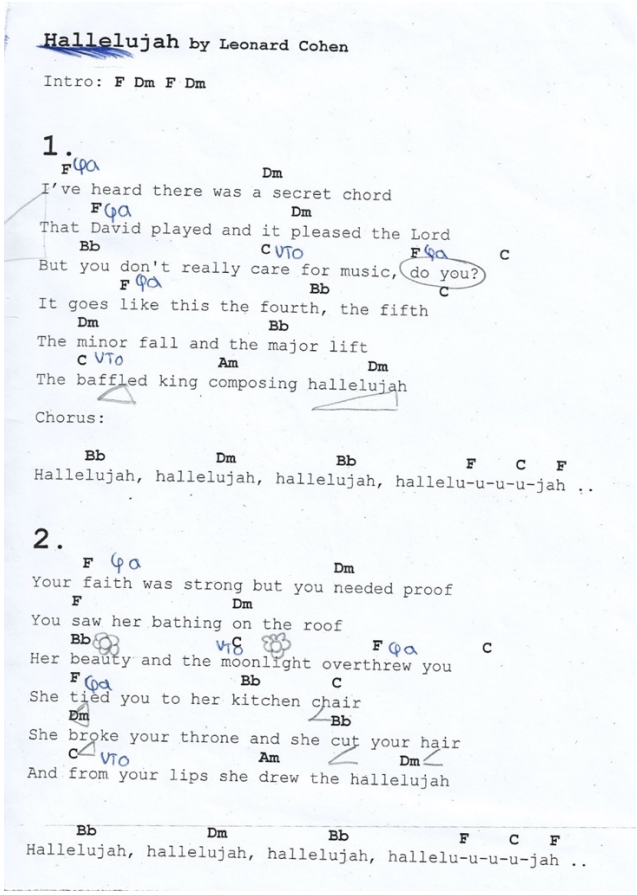



**Figure 5.23** - Student **B55520.18F –** Student's additional information on how to sing the song. For example, a crescendo above certain words and using flowers as a visual cue for singing with softness.

Furthermore, the students in the VAMP-infused groups had the opportunity to discuss the song's visual representation in the different variations and interpretations of the lyrics. For instance, by watching the scene in Shrek (2001) sung by Rufus Wainwright, with the help of the visuals and editing, they determined whether it was supposed to be a song about love (Movieclips 2018). In the adaptation by Alexandra Burke, they discussed how the visual setting of the scene, the lighting, the dress, the Xmas tree and decorations, along with the orchestration and the use of the gospel choir, transformed the song into a Xmas one, again even though the lyrics do not suggest that. After watching the Pentatonix (2016) adaptation of the same song watched, the students were asked to come up with a single word as a title to describe the suggested mood/emotional interpretation of the song. The discussion in all the VAMP-infused groups suggested a post-apocalyptic setting. Most of the students suggested this scenario after 2 minutes and 46 seconds. When asked why it took them so long to come

up with this mood interpretation, some claimed it was due to the singer's facial expression (Figure 5.24).


**Figure 5.24** - Pentatonix (2016) - The singer Mitch Grassi, in 2.46 minutes of the video, shows a sad expression on his face.

There was also a discussion on the pre-recorded studio sessions. The intention in the recording studio and the use of beatboxing was probably not the final on-screen video clip scenario; in addition, some students observed that the immaculate strass eye makeup of the girl was too excessive to make a post-apocalyptic scenario believable (Figure 5.25).

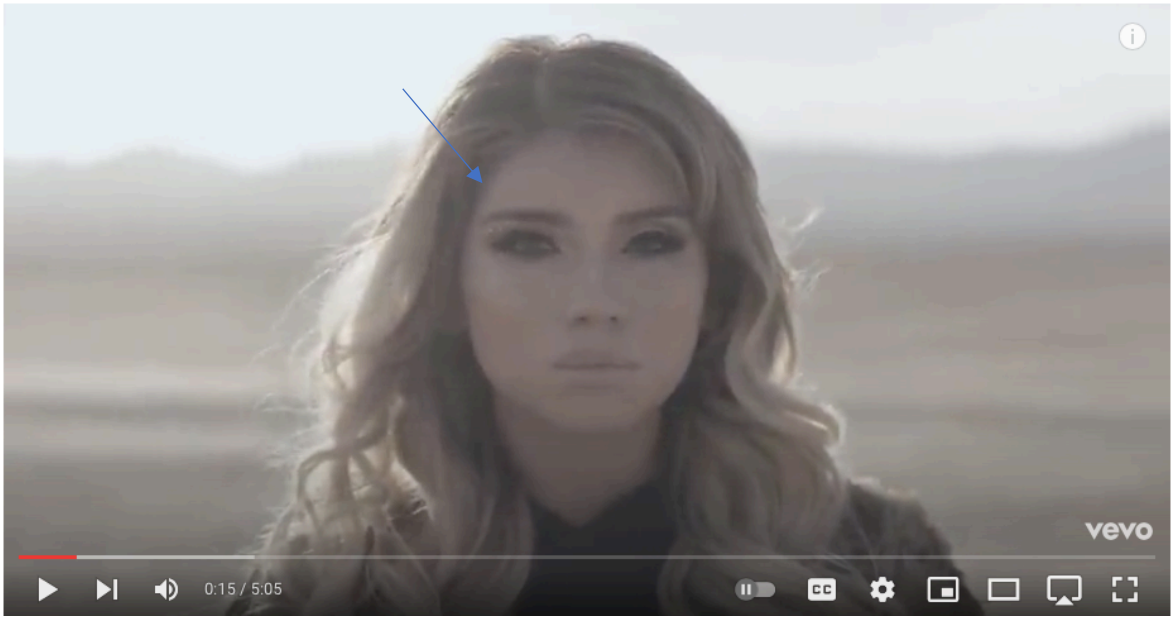



**Figure 5.25** – Pentatonix (2016) - Eye makeup with three strass of the Mezzo-soprano singer Kirstin Maldonado.

We discussed that although it was obviously pre-reordered, the facial expression made the tenor show emotion; therefore, from this moment forward, they ‘got’ the post-apocalyptic scenario of the song. Here the students in the VAMP-infused lessons showed in their discussion aspects of what Csikszentmihalyi calls the most advanced mode of listening that can facilitate Flow, the **analytic mode of listening.**

Finally, the VAMP-infused groups watched the rock version performed by Jeffrey Adam Gutt (Petacha 2013) and discussed which acoustic or visual elements can be considered in this adaptation as Rock. The students all agreed that it was a successful rock interpretation of the song and that it clearly showed a loss of love and disappointment, similar emotion to Shrek, although a completely different orchestration and vocal interpretation.

The VAMP-infused students found the extra versions of songs with their visual display, whether in official video clips or live performances, to be an interesting topic of conversation regarding music performance in general. They discussed how orchestration, lighting and staging, singing interpretation, and facial expressions could evoke certain emotions and different meanings/interpretations of the lyrics. In the final recording of their group interpretation and performance of Leonard Cohen's 'Hallelujah', both the VAMP-infused and Control groups showed equal enthusiasm. However, neither group made significant changes to the instrumentation, vocals, or facial expressions that could evoke a specific mood or emotion for the song.

**5.5.5 Questionnaire 5** (2 lessons) Opera/ Mozart/ Classic Period. Case study the Magic Flute. The end task for both groups, VAMP-infused and Control, is to perform the already told song by Leonard Cohen, Hallelujah, in an ‘operatic’ manner.

In all the classes, general information was given and a discussion regarding the history of Opera and the Classic period. All the taught students also watched key scenes from the Magic Flute Performance (Royal Opera House 2017). They had to compare it with what is considered a bad interpretation of the same extract sung by Florence Foster Jenkins (Foster Jenkins 1992). The students had the opportunity to discuss the difference between the two recordings and distinguish what is considered good opera singing. During our conversation, we talked about the process of creating sound for opera singers, as presented in TED-Ed (2020). Towards the end of our second session, the participants were given the task of singing Leonard Cohen's "Hallelujah" in an operatic style, with the goal of utilising their diaphragm and

projecting an operatic voice. To help the students differentiate between singing a song "operatically" and their previous performances, a familiar song was chosen from previous lessons. This made it easier for them to identify the differences.

In the VAMP-infused classes, we delved into the visual aspect of opera singing and how emotions are conveyed through facial expressions. To illustrate this, we viewed a brief video on identifying basic human emotions (The Oregonian 2015). A study by Livingstone et al. (2009 and 2010) found that facial expressions play a significant role in emotional singing. The study showed that when performers used facial expressions to convey specific emotions, their audience could understand and interpret them. This suggests that facial expressions are important in the various stages of singing, including perception, planning, production, and post-production. I also requested that the students pay attention to my exaggerated cartoon-like facial expressions and how I pronounce words. Then, I asked if they could identify the particular emotion I was conveying with my face and if that correlated with the operatic sounds I produced. Johnson (2003) believes one can draw lessons from the dramatic portrayal of practising opera singers by applying their techniques to specific examples of conversational agents. Likewise, I encourage the students to exaggerate their interpretation of emotions they want to project in their interpretation of the Hallelujah song by Leonard Cohen sung ‘operatically’. Practically, as this class was during Covid 19 mandatory protocol of mask-wearing, this was achieved by momentarily asking them to remove their face mask and away from each at a safe distance.

Further to the above, the VAMP-infused groups watched a video from different extracts of operas, and they had to identify from the facial expressions the corresponding emotions (TwoSetViolin 2018). In closing, the VAMP-infused groups also watched a video with real footage of Florence Foster Jenkins, and we discussed that it was clear from her facial expressions that it was difficult to identify any specific emotion (Historic Films Stock Footage Archive 2016).

During these lessons, the students could listen to one of the most recognisable pieces of music from the Classical period - Beethoven's 5th Symphony. The VAMP-infused groups were asked to visualise a scene that could go along with this theme. Additionally, they were asked to create a graphic score of the main theme, shown in Figures 5.26 - 5.28.

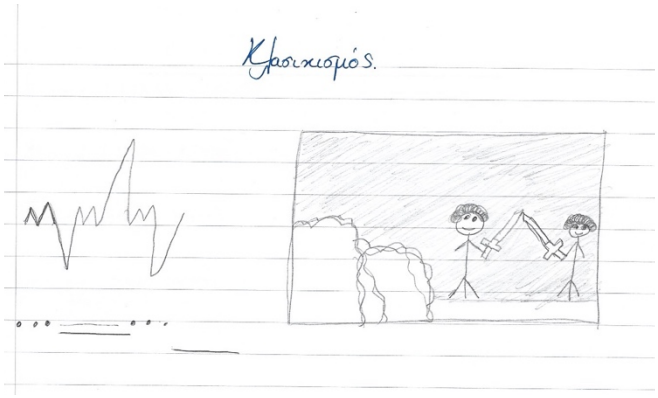


**Figure 5.26** - Student **B55596.17F** – When asked, the student clarified that the scene in the artwork portrays a sword fight between two men. The student also explained that the repetition of a four-note motive with a slight alteration indicates the presence of two individuals.

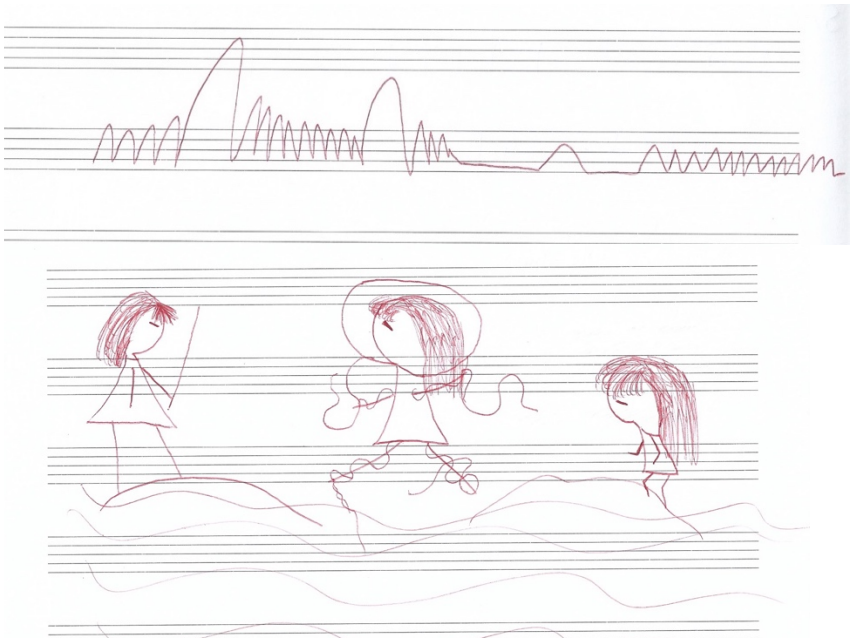


**Figure 5.27** - Student **B25708.7F** – A student created a drawing of a girl dancing in three parts. When questioned about the different stages of the dances, the student clarified that the first section depicted the "Strick" four-note motif. The second section showed the same girl dancing with ribbons to represent the "wavy" middle portion of the composition. Finally, the third section imitated the formal dancing from the beginning as the main theme made a comeback.

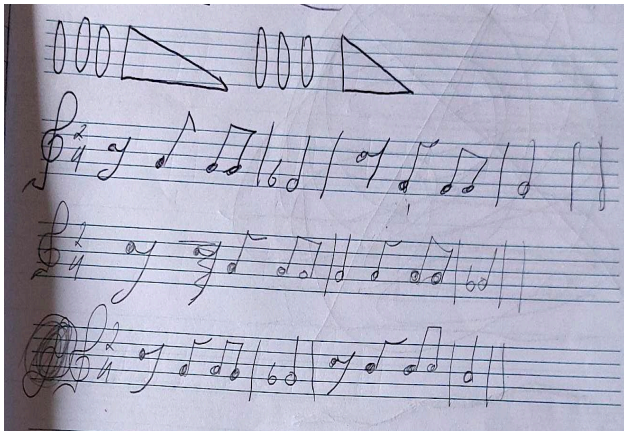


**Figure 5.28** - Student **B45541.12M** – This student chooses to draw the main motive in circles and triangles. When asked why these specific shapes, the answer was that “the music sounds like the shapes”. The student interpreted the timbre of the four-note motive, with the notes' dynamics and duration accurately. Furthermore, the student translated the motive into notes by ear.

Uncanny similarity of the above (Figure 5.28) student **B45541.12M**, is Kandinsky’s (1926:43) visual depiction of the same classical piece of music is shown below (Figure 5.29) as also the digital visualisation of the same music in Smalin (2009) (Figure 5.30).

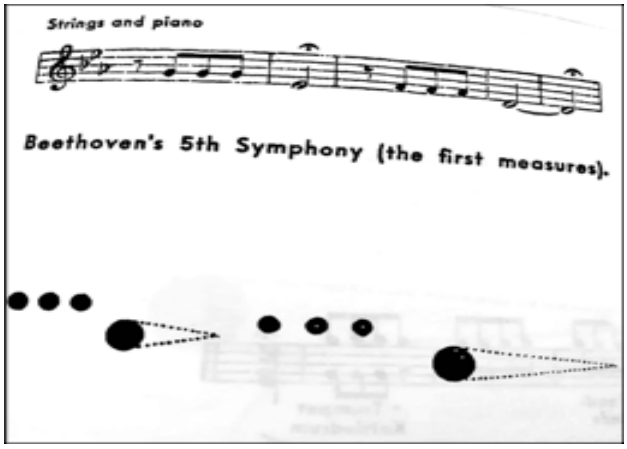



**Figure 5.29**: Visual depiction of Beethoven’s 5th Symphony by Kandinsky (1926:43).

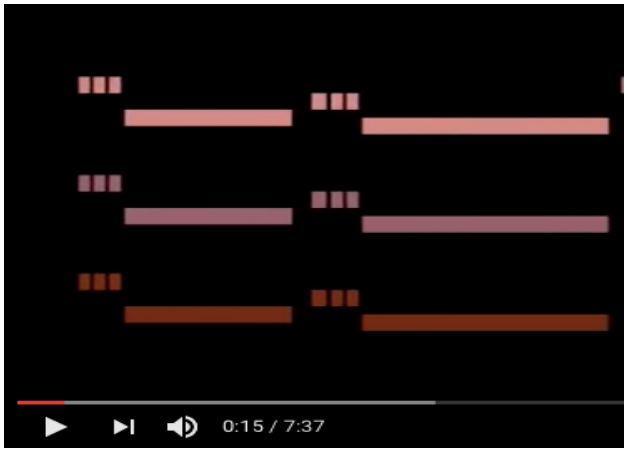



**Figure 5.30** - (Smalin 2009) – Visual scoring of Beethoven's 5th Symphony First movement Allegro con brio.

The students' drawings effectively conveyed their understanding of the music's interpretation, timbre, and emotion. This visually demonstrated Han's (2016) theory that drawing while listening to music can improve the overall listening experience for students. As mentioned earlier in this Chapter, Montarou's (2014) art classes research, of fast live drawing whilst listening to music created Flow. Whether or not drawing, as an activity of teaching music, can also produce Flow experiences it will be answered in the questionnaire results in Chapter 6.

Overall, the students enjoyed the lessons equally well and produced an 'operatic' version of Leonard Cohen's song 'Hallelujah' without any obvious difference between VAMP-infused groups and Control ones.

**5.5.6 Questionnaire 6** (2 lessons) Byzantine music**.** History and background. Getting familiar with the symbols. Sing a well-known Byzantine hymn (Σε Υμνούμε – Se Ymnoume) (Figure 5.31). The end task is to compose and perform their own two-phrase hymn by using the three basic Byzantine symbols. The VAMP-infused groups had to demonstrate their composition by movement also.

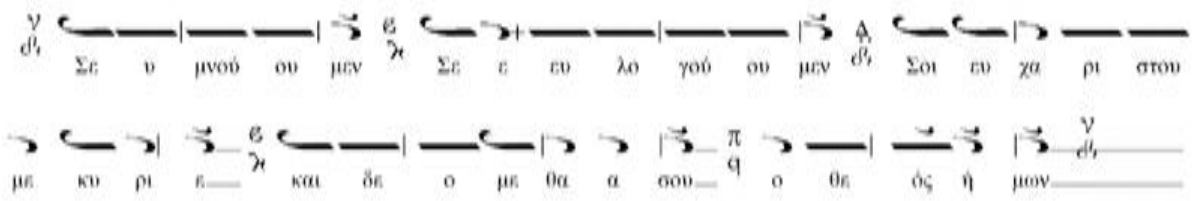



**Figure 5.31** - «Σε υμνούμεν» Hymn by Petros Vizantios (1770 - 1808) based on the text by St. Basil of Caesarea (Άγιος Βασίλειος ο Μέγας) (330 – 379).

During our session, I introduced all the groups to the three primary symbols of Byzantine music, as seen in Figure 5.32. In the VAMP-infused groups, however, I also visually demonstrated the symbols by walking up and down the wooden stairs in the classroom, as shown in Figures 5.33 and 5.34.

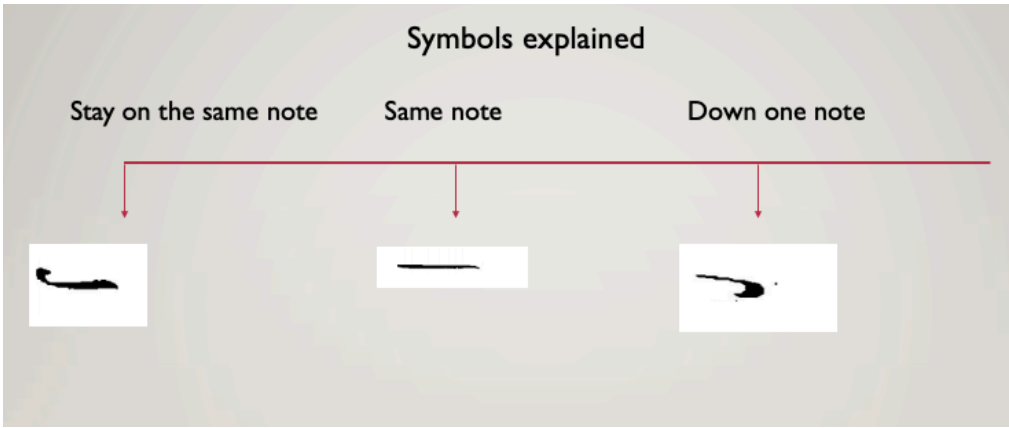



**Figure 5.32** – The tree basic Byzantine Symbols – Stay on the same note, same note and down one note.

**Figure 5.33** – Classroom choir stairs of my school.

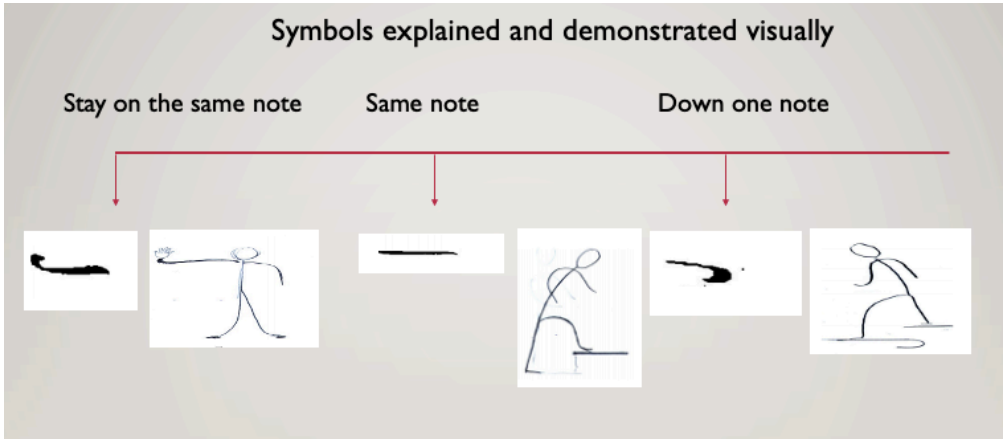



**Figure 5.34** – Body gestures of the three basic movements.

Byzantine music is mainly heard in church, and many students are unfamiliar not only with its structure and unique sound, as it is only vocal, but also with its formality, as it is entirely created for the Greek Orthodox Church. The school's multicultural approach allows the students to be familiar with the Academic knowledge regarding its genesis and function. Still, when I announced that this set of lessons the subject was based on Byzantine music, there is some resistance from the students (both Greek Cypriots but also from other ethnicities). We

discussed the historical background of Byzantine music and its connection to Ancient Greek music in both VAMP-infused and Control groups. When told that the end task was to compose their own phrase in Byzantine music using the three basic symbols, most students were reluctant to find this task remotely interesting, as it sounded alien to the connection between modern Greek and Byzantine music.

The extra activity in the VAMP-infused groups was to 'Perform' their composition visually by moving up and down the classroom stairs (as the teacher previously demonstrated). There is no photographic data from the students' movement up and down the classroom stairs only the text similar to the student in Figure 5.35.

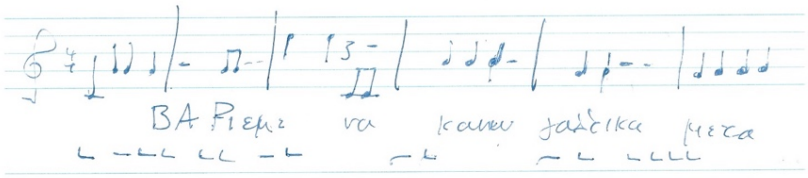



**Figure 5.35** - Student **B25513.10M** – Student's Byzantine composition before he visually demonstrated it in the classroom steps he wrote the verse «ΒΑΡιέμε να κάνω γαλλικά μετά» (I'm bored to do French afterwards) with special emphasis by capitalising the first three letters.

This was a challenge as a cluster of various considerations, such as being exposed, singing what is considered for them 'uncool' church music, and being self-conscious about their own composition. It was already difficult to get the students in the Control groups to sing their Byzantine composition. Still, having the VAMP-infused groups perform their composition while incorporating movement up and down the classroom steps was nearly impossible. After much persuasion, reluctantly, the VAMP-infused students demonstrated their composition visually.

"Most enjoyable activities are not natural; they demand an effort that initially one is reluctant to make. But once the interaction starts to provide feedback to the person's skills, it usually begins to be intrinsically rewarding" Csikszentmihalyi (1990:68).

Incorporating Csikszentmihalyi's (1990) idea that enjoyable and rewarding activities can be non-natural, the movement was introduced as a teaching method in the VAMP-infused groups for this lesson set. I believe this approach serves as a visual reminder of the lesson experience and can push students out of their comfort zone for growth, as suggested by Russo-Netzer and Cohen (2022:14).

**5.5.7 Questionnaire 7** (3 lessons) Tarantella Dance – Historical background of the dance creation. End task to record the Tarantella Napoletana at the right speed. In a group of 2-4 students, the end task is to perform Tarantella Napoletana in an accurate rhythm with or without the help of the technology. The VAMP-infused groups also had to choreograph and perform their own unique dance.

In all the classes, we discussed the history of the creation of the Tarantella dance and how it is still celebrated today in Italy. The students were given Tarantella Napoletana's score (Figure 5.36) and were asked to play it to a speed of 128 beats per minute (BPM) for a dotted crotchet. If students could not perform it to the desired speed, they could record it in Audacity (2000) and then speed it up at the playback.

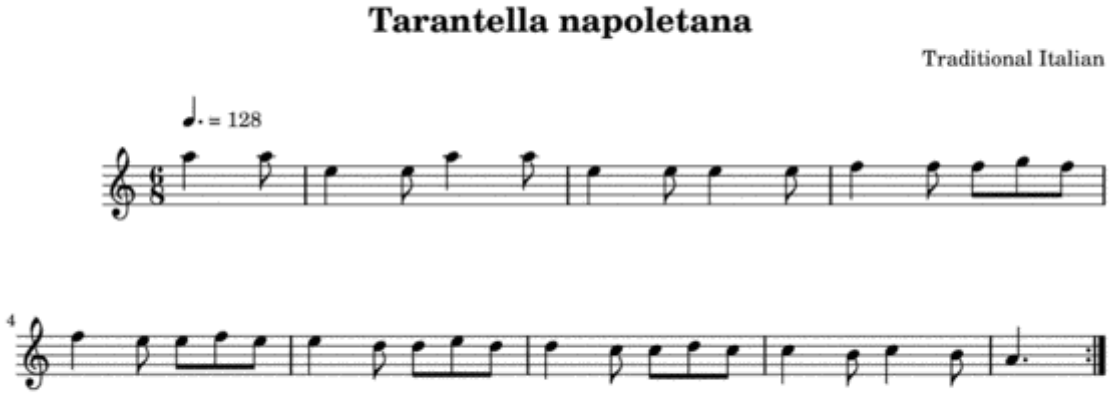



**Figure 5.36** – Student's handout of *Tarantella Napoletana*. With the help of the notation, the students had to record audio of their group playing the above music. The final tempo had to be 128 BPM.

As seen in Figures 5.37- 5.41, the VAMP-infused groups created teams of 2-4 students who also collaborated and choreographed a simple step Tarantella dance on the playback of their groups' recording.

**Figure 5.37** - VAMP-infused class B4 of three students demonstrating their dance.

**Figure 5.38** - Three students in the VAMP-infused class B5 are demonstrating their dance.

**Figure 5.39** – Another group in B5 VAMP-infused demonstrating their dance.

**Figure 5.40** - VAMP-infused class B2 of two students demonstrating their dance.

**Figure 5.41** - VAMP-infused class B4, a group of four students demonstrating their dance.

The process was quite pleasant for all the taught groups, VAMP-infused and Controlled. In fact, this set of lessons had no difference in the delivery between the two groups, but only the task in the end.

During the last set of Byzantine lessons, some VAMP-infused groups were resistant to performing with movement. I expected a similar or worse reaction this time, but to my surprise, the students willingly stepped outside their comfort zone and created their Tarantella dance with little persuasion. My Zeibekiko dancing in Questionnaire 2 set of lessons probably played a big role in this positive outcome.

Being part of a small group in the dance task encouraged the students as they genuinely enjoyed choreographing their dance. According to Csikszentmihalyi, “very often **a sense of**

**transcendence**, that is, that you are no **longer alone within your own little defensive self, but you are part of something bigger, larger.** If you sing in a choir or play with a group, a symphony or something, one of the most obvious things that people report is that they experience their own voice, the music they are making, as now being part of a much larger unit and it's a feeling of expanding the boundaries of the self." (2014a:137) (emphasis my own).

## CONCLUSION CHAPTER 5

**"**Changing the nature of instruction requires rethinking curricular design and classroom strategies. The idea of teacher as sole purveyor of knowledge and skill is no longer adequate; instead, we need to look at teachers as facilitators who provide tools for students to create musical challenges for themselves" (Csikszentmihalyi and Custodero, in Sullivan et al. 2002: xv-xvi).

This chapter analyses how the lessons were transformed into VAMP-infused by creating a visual display using video, image, drawing, movement, or dance. The visual display acted as a visual experience to support Kandinsky's (1914,1926) belief that art should be experienced holistically for one to achieve *Transcendence*. The lessons were designed so that this visual experience was always combined with Csikszentmihalyi's (1990) balance between skill and challenge in order to achieve *Flow*.

For Csikszentmihalyi, the optimal experience can occur to everyone, and it can be controlled. "For each person there are thousands of opportunities, and challenges to expand ourselves" Csikszentmihalyi (1990:3). Teaching Music Visually aims to be one of them.

During the above lessons, it was apparent that when the students were concentrated on a task such as singing, dancing, and performing, they sometimes forgot their self-image and allowed themselves to be part of a group, even verbally confessed times that I had asked them that they do not notice the time passing. This was also demonstrated at times when the bell rang, and they did not react when they were focused on an activity that they enjoyed and asked me to give them a few more minutes to complete the task.

“The best moments in our lives, are not the passive, receptive, relaxing times—although such experiences can also be enjoyable, if we have worked hard to attain them. The best moments usually occur when a person’s body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile” Csikszentmihalyi (1990:3).

My teachers’ notes which will be presented as a piece of additional information during the data results have shown that VAMP-infused groups demonstrated a bigger enthusiasm when the visual aid was introduced in the classroom experience. The initial aim of garnering their attention was, at least from my experience, achieved. My initial worry was that the VAMP-infused groups might need more extra time due to the activities, but this was somehow unfounded as, in the end, this time was regained by the VAMP-infused group's enthusiasm and eagerness.

Speaking now as my experience delivering VAMP-infused lessons as a teacher, I have also experienced extra enthusiasm. However, this can be translated as part of my eagerness for the research or a biased assumption. Putting the image in a principal position in my VAMP-infused teaching has demonstrated another form of expression that is not new; however, it cannot be overlooked. The following images are a visual comparison of how music is expressed in images by Kandinsky, John Cage and one of my VAMP-infused students[22]. This was not a lesson in the research, it happened in an extra period in one of the three VAMP-infused groups, and I asked them to express in writing (I did not specify drawing) the expression and form of their simple composition. Seeing and comparing the images shows that the VAMP-infused student expressed the form and emotions of the composition that has some similarities to the other images (Figures 5.42 – 5.44).

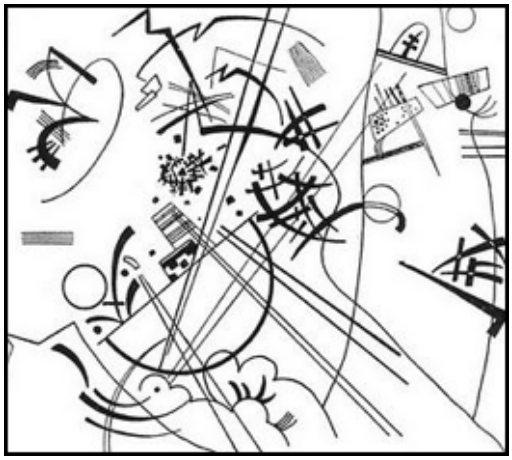


**Figure 5.42 -** Kandinsky “Little Dream in Red” (1925) (1926:147)

[22] As it is not part of the questionnaire data, I will not name which group this student was.

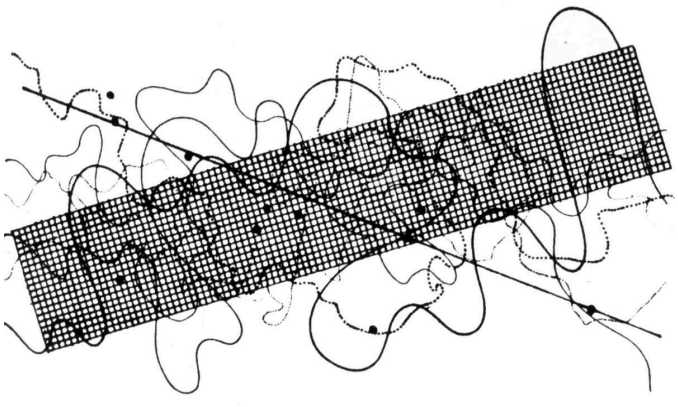


**Figure 5.43** – John Cage “Fontana Mix” (1958)

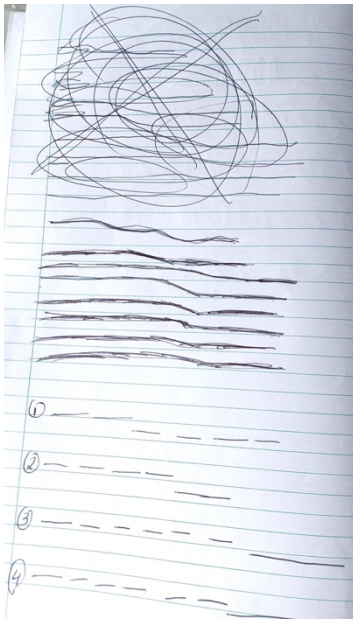


**Figure 5.44** - **B45597.13M** - Graphic representation of a student’s score when asked to write down the expression/feelings of his three-part composition.

Chan and Gan (2022:8) looked at various studies that piloted art-based interventions utilised for adolescents with mental disorders or adverse life experiences such as autism, depression, anxiety, hospitalisation, bullying, trauma, stammering and stress. They concluded that regardless of the art-based modalities that were utilised in various countries that they collected the data from, the results empirically suggest that benefits were provided in terms of improving the mental health and well-being of adolescents (Chan and Gan 2022:8). At the same time,

they suggest that such results should be taken with caution as there is limited literature in collectivistic cultures and interventions regarding adolescents and mental health, especially in cultures like the Asian countries (Chan and Gan 2022:16).

According to Csikszentmihalyi, “A person who has achieved control over psychic energy and has invested it in consciously chosen goals cannot help but grow into a more complex being. By stretching skills, by reaching toward higher challenges, such a person becomes an increasingly extraordinary individual” (1990:6).

The integration of Visual Augmented Music Pedagogy into the curriculum did not require additional teaching time, as the instructional focus was adjusted in the Control groups to prioritise activities such as playing, rehearsing and notation instruction, while the VAMP-infused groups allocated more time utilising visual aids. Subsequent to the series of lessons, encompassing a total of seven sessions, all participating students were requested to complete the EduFlow Questionnaire, which had been translated into Greek. Chapter 6 will analyse the outcomes derived from the EduFow Questionnaires to ascertain whether VAMP-infused groups experience a greater sense of Flow compared to the Controlled groups. Based on my personal experience delivering the lessons to both sets of groups, with the exception of few lessons, such as the Byzantine composition demonstration, the feedback received from student engagement in the VAMP-infused groups was predominantly positive.

# CHAPTER 6 – DATA ANALYSIS AND RESULTS

## INTRODUCTION

The primary aim of this Chapter is to explore effective methods for measuring the mindful state of Csikszentmihalyi's Flow, specifically through utilising Visually Augmented Music Pedagogy (VAMP). The Grounded Theory approach is used in research hypotheses to provide guidance for data interpretation.

This chapter will analyse data gathered through a questionnaire using a Likert scale from EduFlow (Heutte 2014, 2016). The goal is to determine if teaching music visually can create a mindful classroom environment that facilitates Flow. By comparing the results of the VAMP-infused groups to the Control groups, the EduFlow analysis will show if the former exhibit a higher Flow state.

The preferred method of data analysis is based on Heutte's (2017) (in Mawas and Heutte 2019:499) Cognitive Absorption Modelling, and the data is presented by each questionnaire separately in Microsoft Excel. The Data will be discussed and compared to critically examine the possible factors that influenced the score depending on the subject and delivery of the lesson in VAMP-infused and Control groups. Furthermore, this chapter will address the ethical considerations surrounding the research, including the procedures followed to obtain student/parent consent for participation and the potential power dynamics associated with my role as a deputy head of the school.

## 6.1 EDUCATIONAL FLOW (EuFlow) QUESTIONNAIRE ANALYSIS

Educational Flow research has been a very well researched subject area, as discussed in Chapter 4, with various versions of the Experience Sampling Methods initially conducted by Mayers (1978). EduFlow Questionnaire (Heutte et al. 2014:32, Heutte 2016 and Mawas and Heutte 2019:497) has been chosen as the preferred method of identifying whether Flow has

been achieved in the seven questionnaires given after a set of lessons listed in the previous Chapter by comparing the Control and VAMP-infused groups (Figure 6.1).

EduFlow Questionnaire During a learning activity

1 2 3 4 5 6 7
(strongly disagree )……..(totally agree)

**FlowD1: Absorption Cognitive/ Cognitive absorption**

| | |
|---|---|
| 01D1a. I feel I am able to meet the high demands of the situation. | 1 2 3 4 5 6 7 |
| 02D1b. I feel that what I do is under my control. | 1 2 3 4 5 6 7 |
| 03D1c. I know what I have to do at every step of the task. | 1 2 3 4 5 6 7 |

**FlowD2: Time transformation**

| | |
|---|---|
| 04D2a. I am totally absorbed in what I am doing. | 1 2 3 4 5 6 7 |
| 05D2b. I am deeply concentrated on what I'm doing | 1 2 3 4 5 6 7 |
| 06D2c. I don't notice the time passing. | 1 2 3 4 5 6 7 |

**FlowD3: Loss of self-consciousness**

| | |
|---|---|
| 07D3a. I didn't care about what the others could think of me. | 1 2 3 4 5 6 7 |
| 08D3b. I don't fear the judgment of others. | 1 2 3 4 5 6 7 |
| 09D3c. I was not worrying about what the others think about me. | 1 2 3 4 5 6 7 |

**FlowD4: Autotelic experience (well-being)**

| | |
|---|---|
| 10D4a. I have the feeling of living a moment of excitement. | 1 2 3 4 5 6 7 |
| 11D4b. This activity makes me happy. | 1 2 3 4 5 6 7 |
| 12D4c.When I talk about this activity, I feel a strong emotion and I want to share it. | 1 2 3 4 5 6 7 |

**Figure 6.1** - Heutte et al. (2014:32) Mawas and Heutte (2019:497) – EduFlow Questionnaire.

The EduFlow questionnaire is based on a seven-point Likert Scale, coined by the Sociologist Dr Rensis Likert (1932) as a psychometric response scale primarily used to obtain participants' preferences or degree of agreement with a statement or set of statements. "Likert scales are a non-comparative scaling technique and are unidimensional (only measure a single trait) in nature. Respondents are asked to indicate their level of agreement with a given statement by way of an ordinal scale" (Bertram 2007:1).

The students were asked to fill out a questionnaire at the end of a teaching unit that consisted of two to three lessons. The whole class filled out the questionnaire after an activity, for

example, the performance and recording of a specific piece of music. Before filling out each questionnaire that marked the end of the set of lessons, there was a small recap that reminded the conclusions and the activities aimed for the collection of lessons. However, it was also clear that the questionnaire was specific to the experience gained in the last lesson.

In each class, seven questionnaires were distributed and completed by both the VAMP-infused and control groups. As previously mentioned in the analysis chapter, the lesson curriculum was identical for both groups. However, in the VAMP-infused group, I have incorporated more visual elements by adding activities to my teaching.

The twelve questions in the seven Likert Scale were divided into three for each Dimension:
FlowD1 - The Cognitive absorption – Questions 1 – 3.
Cognitive control is an immersion in the task when learners are so intensely involved in a task that they feel completely absorbed (Alvarez et al. 2022:4), which is considered a necessary precondition for flow in education (Heutte et al. 2021:5).

FlowD2 - Time transformation – Questions 4 – 6.
Time transformation or alteration in the perception of time, sometimes leading to a lengthened duration of immersion in the task (Heutte et al. 2016:133), when the learner experiences a loss of time reference or is unable to assess the length of time correctly, they stayed engaged (Alvarez et al. 2022:4).

FlowD3- Loss of self-consciousness – Questions 7 – 9.
According to Csikszentmihalyi, 'loss of self-consciousness' does not involve a loss of self, and certainly not a loss of consciousness, but rather, only a loss of consciousness of the self. In this state, the information and awareness of the concept of self seem to slip below the threshold of awareness, and this psychological state seems to be very enjoyable. "When not preoccupied with our selves, we actually have a chance to expand the concept of who we are. Loss of self-consciousness can lead to self-transcendence, to a feeling that the boundaries of our being have been pushed forward" (Csikszentmihalyi 1990:64). Also, according to Alvarez et al. (2022:4), this lack of self-concern related to an increase in the importance of the psycho-social dimension of learning when learners forget other needs because of total engagement in a task (Alvarez et al. 2022:4).

FlowD4 - Autotelic experience (well-being) – Questions 10 – 12.

“The autotelic experience, or flow, lifts the course of life to a different level (…) When experience is intrinsically rewarding, life is justified in the present, instead of being held hostage to a hypothetical future gain” (Csikszentmihalyi 1990:69).

An autotelic experience creates well-being during a set task that results from purpose in the task itself that enhances persistence and the desire to engage in the activity again (Heutte et al. 2016:133) when learners feel good, balanced, and in tune with the present moment so that they wish to repeat the experience (Alvarez et al. 2022:4).

As analysed in Chapter 4, the four dimensions of EduFlow incorporate Csikszentmihalyi's nine dimensions reported when achieving Flow:

1. Goals Are Clear – One Knows at every moment what one wants to do (FlowD1)
2. Feedback is Immediate – One knows at every moment how well one is doing (FlowD1)
3. Skills Match Challenges – The opportunities for action in the environment are in balance with the person's ability to act. (FlowD1)
4. Concentration Is Deep – Attention is focused on the task at hand. (FlowD2)
5. Problems Are Forgotten – Irrelevant stimuli are excluded from consciousness. (FlowD3)
6. Control Is Possible – In principle, success is in one's hands. (FlowD1 and FlowD2)
7. Self-Consciousness Disappears – One has a sense of transcending the limits of one's ego. (FlowD3)
8. The Sense of Time is Altered – Usually, it seems to pass much faster. (FlowD2)
9. The Experience Becomes Autotelic – It is worth having for its own sake. (FlowD4) (Csikszentmihalyi 2014a:133).

Research shows that the EduFlow questionnaire has recently been used in academia, as in Mladenović et al. (2017, 2020) in research regarding human-computer interface, in Alvarez et al. (2022:1) in face-to-face settings and online learning environments and in Rosas et al. (2022) in a primary school classroom.

Likert Scale is applied as one of the most frequently used psychometric tools in educational and social sciences research. At the same time, its analysis and inclusion of points on the Scale have been subjected to many debates and controversies (Joshi et al. 2015:396). Regarding the initial data analysis of the Likert Scale, Allen and Seaman (2007:65) suggest that it should rely on the original nature of the data and not on the parametric statistics and procedures that can be used only as pilot analysis.

This research utilised the direct outcomes of data results as it will adopt the Cognitive Absorption Modelling approach (Heutte 2017), as depicted in Figure 6.2 (found in Mawas and Heutte 2019:499). This model will help us analyse if the first three dimensions lead to a Flow state, which is represented by the Fourth Dimension. The raw data from the Control classes (B1 and B3) will be compared with the VAMP-infused classes (B2, B4 and B5). Through a comprehensive analysis of this data, along with my detailed class notes, the research aims to evaluate the potential of Visually Augmented Music Pedagogy lessons in fostering a state of Flow.

## 6.2 DATA ANALYSIS RESULT' INTERPRETATION

According to raw data results, the VAMP-infused groups scored higher on the Likert-scale questionnaire than the Control groups, indicating a stronger possibility of achieving a Flow state. This section will present the data by questionnaire, based on the framework suggested by Heutte's 2017 diagram, which indicates that when Flow dimensions D1 – 3 are achieved, then Flow Dimension D4 – which indicates Flow – is achieved (Figure 6.2).

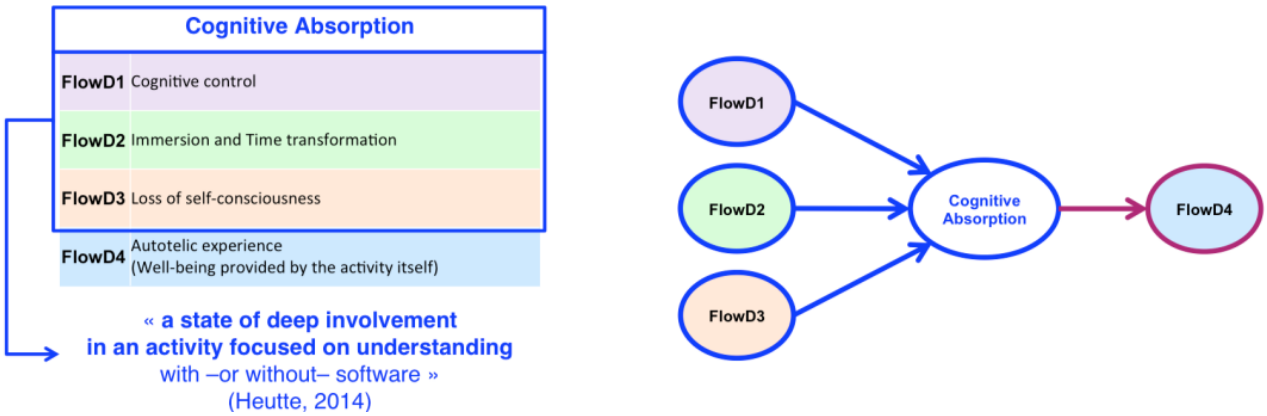


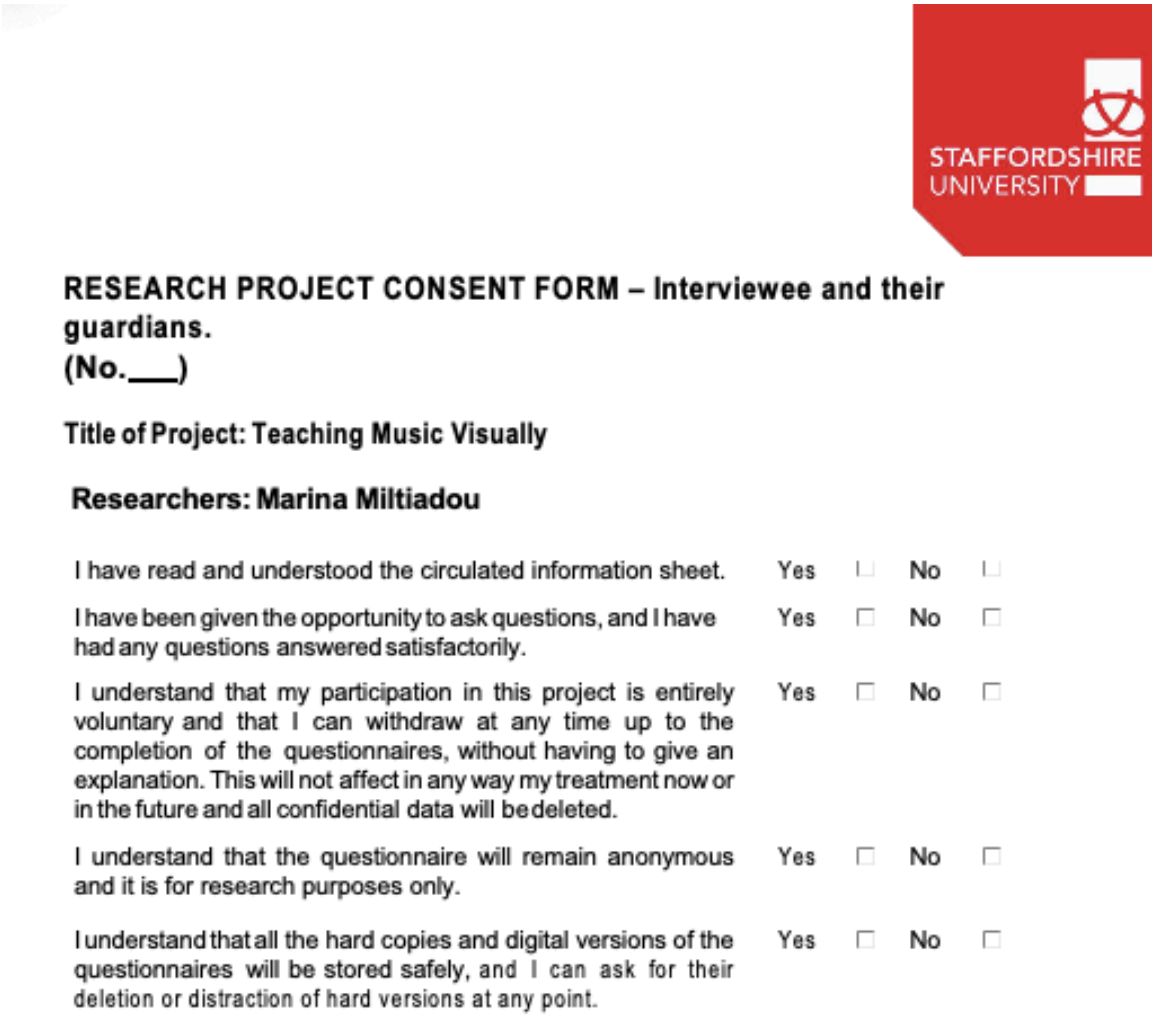

**Figure 6.2** - Cognitive Absorption Modelling (Heutte 2017) found in Mawas and Heutte (2019:499)

While the raw data indicates that the VAMP-infused groups outperformed the Control groups, the conclusion regarding the Research hypothesis will rely on the analysis of the data with respect to the diagram depicted above, which will either confirm or refute the hypothesis. The analysis of each questionnaire has been divided into four dimensions for better

comprehension, and picture diagrams have been included for easier understanding of the scores. The appendixes section provides a comprehensive collection of questionnaire results for each group.

### 6.2.1 RESEARCH DATA COLLECTION AND PROCESS

The general research aim was discussed among the classes that participated, and the students were given consent forms to be filled out by their guardians (Figure 6.3 and Appendix 6.1).



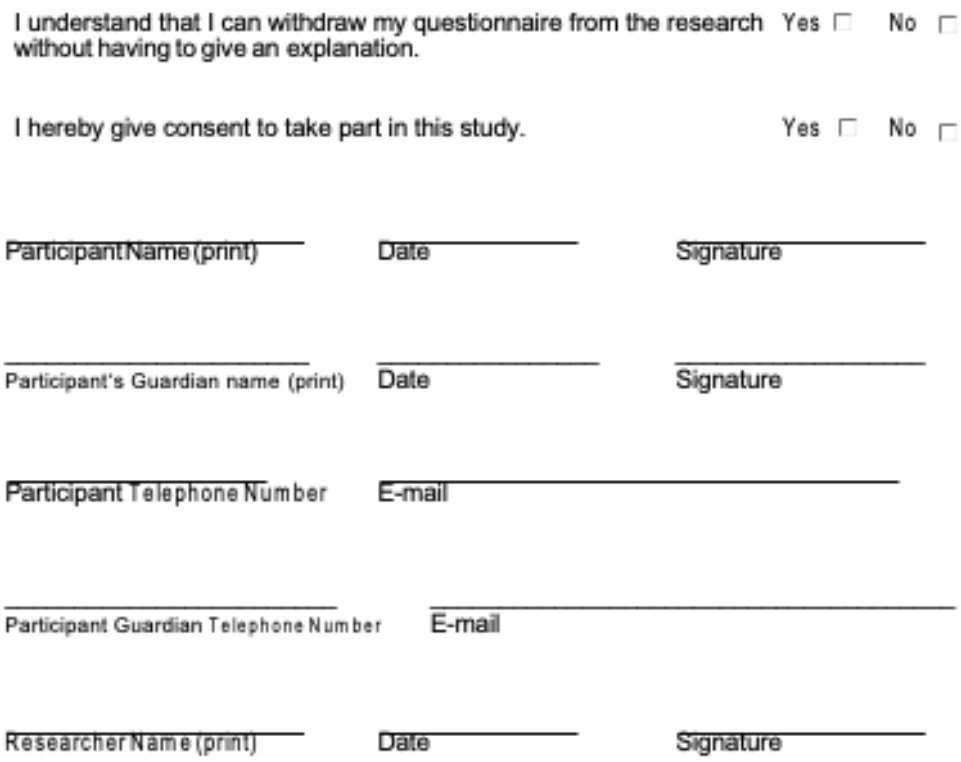
STAFFORDSHIRE UNIVERSITY

**RESEARCH PROJECT CONSENT FORM – Interviewee and their guardians.**
**(No.___)**

**Title of Project: Teaching Music Visually**

**Researchers: Marina Miltiadou**

| | | |
|---|---|---|
| I have read and understood the circulated information sheet. | Yes ☐ | No ☐ |
| I have been given the opportunity to ask questions, and I have had any questions answered satisfactorily. | Yes ☐ | No ☐ |
| I understand that my participation in this project is entirely voluntary and that I can withdraw at any time up to the completion of the questionnaires, without having to give an explanation. This will not affect in any way my treatment now or in the future and all confidential data will be deleted. | Yes ☐ | No ☐ |
| I understand that the questionnaire will remain anonymous and it is for research purposes only. | Yes ☐ | No ☐ |
| I understand that all the hard copies and digital versions of the questionnaires will be stored safely, and I can ask for their deletion or distraction of hard versions at any point. | Yes ☐ | No ☐ |


I understand that I can withdraw my questionnaire from the research without having to give an explanation. Yes ☐ No ☐

I hereby give consent to take part in this study. Yes ☐ No ☐

Participant Name (print) Date Signature

Participant's Guardian name (print) Date Signature

Participant Telephone Number E-mail

Participant Guardian Telephone Number E-mail

Researcher Name (print) Date Signature

**Figure 6.3** – Consent From given to the students and their guardians. Full document available in Appendixes 6.1.

The students were encouraged to participate in the research and were informed that they could withdraw if they changed their minds. Prior to receiving the questionnaires, the students engaged in a discussion about the overall purpose of the questionnaire, which would remain the same for each teaching section. They were asked to honestly share their personal experience in the last lesson of a set of 2/3 lessons. No additional information about desired outcomes or the research context was provided to avoid influencing the students. They were allowed to ask questions about each section of the questionnaire and were assured that their participation would not affect their grades. When filling out the questionnaire, they were asked to write only their classroom number. However, in the end, they all wrote their name and surname, which reassured them that their responses would be kept confidential throughout and after the completion of the research. The students consented in writing, along with their legal guardians and all the procedure was explained to them in a written disclaimer. At a later

stage, the students were coded, and the results were recorded in an Microsoft Excel sheet for each class that participated[23] (Appendix section 6.2).

The analysis focuses on examining individual questionnaires to identify any variations in results across the seven questionnaires. This approach aims to detect any significant changes or trends that may have occurred throughout the sequence of questionnaires. Additionally, the analysis will include other sources of information, such as the Teachers' notes, for a more comprehensive understanding of the potential factors that may have influenced the responses obtained in the questionnaires. The inclusion of qualitative data aligns with the Grounded theory upon which this research is based and contributes to a complete interpretation of the overall findings, providing a more holistic perspective on the research outcomes.

### 6.3 SCHOOL AND CLASS DEMOGRAPHIC OF VAMP-INFUSED AND CONTROL GROUPS

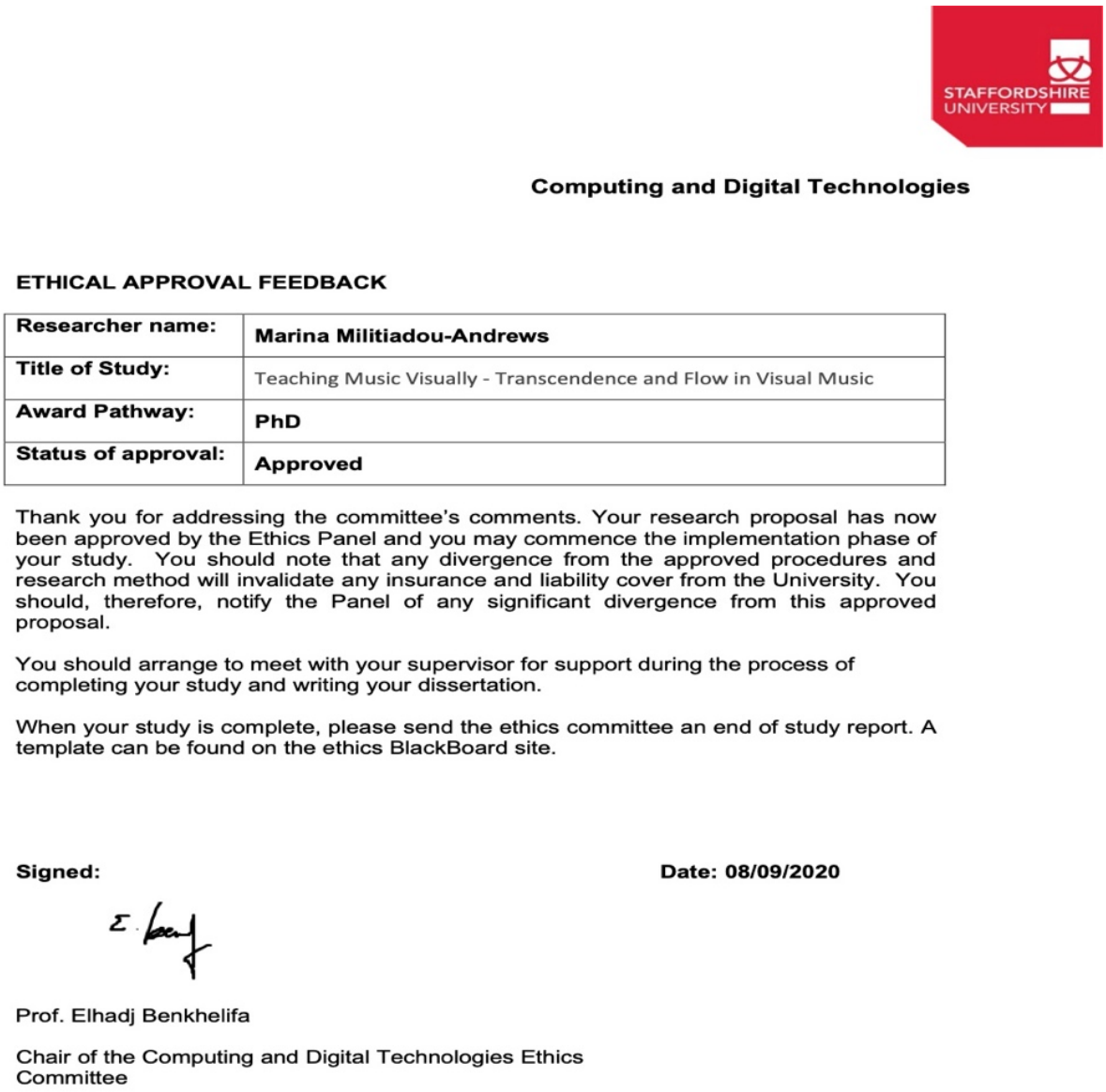
All the classes have been randomly divided since the first grade (A1-A5) as they came from elementary school. Factors considered during the division process included requests from parents and guardians who wanted their children to be placed with friends. Additionally, the school ensured that each group had a mix of students with varying academic abilities based on their marks from elementary school. Among all groups are students that need support in the curriculum with some extra classes; diagnosed with learning difficulties, Attention-Deficit/Hyperactivity Disorder (ADHD) and some other psychological or neurological problems. Also, the school's location in inner-city Nicosia, the capital of Cyprus, has approximately thirty per cent of students with immigrant biographies, which means that Greek is not their first language.

[23] Note: The deleted numbers in the Excel sheets are the students who did not consent and might be students who periodically did not attend the lesson on the day of the given questionnaire for various reasons. In cases where students input a number outside of the Likert scale range of 1-7 (such as 0 or 8 and above), I have entered the closest number within the scale in Excel for more accurate results. For example, I entered 1 for 0 and 7 for 8 or above.

B1 Control group demographic, number of students 22 (M. 9 and F.13). Consented 18 students (M.6 and F.12).
B2 VAMP-infused group demographic, number of students 19 (M. 9 and F.10). Consented 16 students (M.8 and F.8).
B3 Control group demographic, number of students 20 (M. 9 and F.11). Consented 15 students (M.6 and F.9).
B4 VAMP-infused group demographic, number of students 18 (M. 9 and F.9). Consented 11 students (M.5 and F.6).
B5 VAMP-infused group demographic, number of students 20 (M. 8 and F.12). Consented 12 students (M.3 and F.9).

## 6.4 RESEARCH ETHICS

Staffordshire University Research Ethics Committee approved the full ethical review submitted for this research. This involved a minimal risk and relevant professional body ethical guidelines that have been approved (Figure 6.4).



Computing and Digital Technologies

**ETHICAL APPROVAL FEEDBACK**

| | |
|---|---|
| **Researcher name:** | **Marina Militiadou-Andrews** |
| **Title of Study:** | Teaching Music Visually - Transcendence and Flow in Visual Music |
| **Award Pathway:** | **PhD** |
| **Status of approval:** | **Approved** |

Thank you for addressing the committee's comments. Your research proposal has now been approved by the Ethics Panel and you may commence the implementation phase of your study. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

When your study is complete, please send the ethics committee an end of study report. A template can be found on the ethics BlackBoard site.

**Signed:** **Date: 08/09/2020**

Prof. Elhadj Benkhelifa

Chair of the Computing and Digital Technologies Ethics Committee

**Figure 6.4** - Ethical Approved Feedback from Staffordshire September 2020.

The study focused on music lessons in all five B-level classes at Dianellou and Theodotou Gymnasium, an inner-city secondary school located in Nicosia, the capital of Cyprus[24]. The information was gathered through physical questionnaires distributed at the conclusion of a series of classroom lessons. The demographic involved general classes with a basic classroom gender ratio and mixed academic capabilities. The participants were made aware that they had the freedom to opt out of the study at any time they desired. Moreover, they were given enough information but not details to influence the result of their answers. For example,

[24] The school has three levels, A', B' and C'.

they knew they were taking part in research concerning their honest opinion on a set of delivered lessons; however, they were not informed about the research hypothesis or whether they belonged to a VAMP-infused group or the Controlled group. Additionally, it was made clear that their responses would not impact their final grade or my personal perception of them. The questionnaires are stored manually, and they have been anonymous through coding. As a deputy head, I am assigned to manage[25] a class at each level. In level B, where the research was conducted, I was given group B3 to manage. It is common for a deputy head to also teach the class they manage. However, I made sure to clarify to my students that my role as a teacher does not affect my responsibilities as a deputy.

In all schools in Cyprus, it is typical for a teacher to hold the deputy head position. At my school, there are five deputy heads who are teachers with additional disciplinary responsibilities for their assigned classes. This balancing act of being both a teacher and enforcer in a randomly assigned class is a familiar routine for both educators and students. There is no indication of any power imbalance in this system.

## 6.5 RESULTS ANALYSIS BY QUESTIONNAIRE

This analysis will report the raw data from all the questionnaires individually and discuss whether the results could differ firstly from the VAMP-infused groups to the Control ones and whether results compared to the seven questionnaires could be further influenced regarding the subject matter and the timing of the taught session. An initial table of the questionnaire and each answer's scores will be first presented to give an overall image of the scores between the Control groups (B1 and B3) and the VAMP-infused groups (B2, B4 and B5). Also, a display of the results per Dimension, as suggested by Heutte (2017) (Figure 6.1 and Appendix section 6.3), will show visually the scores by Dimension[26]. Likewise, the results for each student with their respective code can be found in Appendix section 6.4.

[25] Each Deputy Head must manage at least three classes, preferably one from each level (A B or C). This role involves teachers' coordination regarding timetables, curriculum, discipline, and other personal issues regarding the students.

[26] For easier reading and visual interpretation of the results, the icons are placed by dimension to make the comparisons. The writing on the figures is only for reference and cataloguing purposes and is not meant to be readable. To view the full-sized, readable version of the results, please refer to the Appendix section 6.3 where all results are available.

**6.5.1 QUESTIONNAIRE 1** (2-3 lessons) revision on reading and playing notes on G clef on personal keyboards. Bass line of Prelude in C major BWV 846.

**Teaching process:**

Control Classes B1 and B3 – a revision by reading, singing, and playing the notes on their personal keyboards.

VAMP Classes B2, B4 and B5 – View different Prelude displays in addition to the above. Also, the students were asked to visualise a scene where this music could be part of the soundtrack (discussion on image and music correlations).

As discussed in the previous Chapter, these two lessons aimed to familiarise the students by reminding them how to read G clef practically by accompanying the piano that the teacher played in a simple accompaniment based on the bass line (metres 1-19) (Figure 5.3) of the Prelude and Fugue in C Major, BWV 846 (Figure 5.4). The final task was to audio record them without making any obvious mistakes and pretending that we are all in front of an audience. This was done by the end of lesson two and just before filling out the first questionnaire.

Overall, the students in the Control groups (B1 and B3) and VAMP-infused (B2, B4 and B5) followed all the instructions well without any major incidents. As a teacher, I noticed no obvious differences between the Controlled and VAMP-infused classes. However, the results of Questionnaire 1 showed a much higher score for the VAMP-infused class (Table 6.5).

| **Questionnaire 1** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 5.4 | **6.3** | 5.2 | **6** | **5.6** |
| Question 2 | 5.5 | 5.5 | 4.6 | 5.2 | 5 |
| Question 3 | 5 | **6** | 4.8 | **6.2** | **5.6** |
| Question 4 | 4.3 | **5.6** | 4.1 | **5.3** | **5.1** |
| Question 5 | 5.2 | **6.4** | 4.2 | **5.6** | **6** |
| Question 6 | 4.7 | **5.6** | 5 | **5.6** | 5.2 |
| Question 7 | 3.8 | **5.7** | 4.7 | **4.8** | **6.1** |
| Question 8 | 4.5 | **5.9** | 4.7 | 4.7 | **6.3** |
| Question 9 | 3.9 | **6** | 5 | 4.7 | **6.3** |
| Question 10 | 4.5 | **6.3** | 3.3 | **5** | **6** |
| Question 11 | 4.2 | **6** | 3.8 | **4.7** | **5.3** |
| Question 12 | 2.7 | **4.7** | 3.3 | **4** | **4** |

**Table 6.5** – The blue highlights indicate the VAMP-infused groups' higher scores than the Control ones.

Based on Heutte's Cognitive Absorption Modelling (2017), the raw data results of each class showed that all the VAMP-infused classes showed improved D4 scores from the control groups. The data was collected in Microsoft Excel; note that the larger circles indicate more responses at this point, and the higher on the vertical axis indicates a higher score in this area.

B1 QUESTIONNAIRE 1 (Control group)

D1 D2 D3 D4

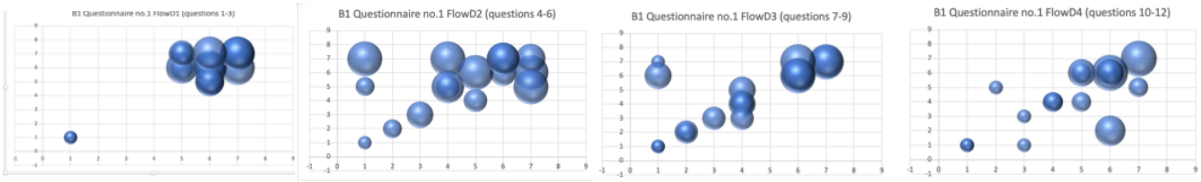



**Figure 6.6** - B1 here demonstrates a concentration of all higher scores in Dimension 1 from all the groups; however, from dimensions 2 – 4, scores are displayed all over the Likert Scale. In D4, where the Flow state should be detected, the score compared to all the control classes is considerably low.

B2 QUESTIONNAIRE 1 (VAMP-infused group)

D1 D2 D3 D4

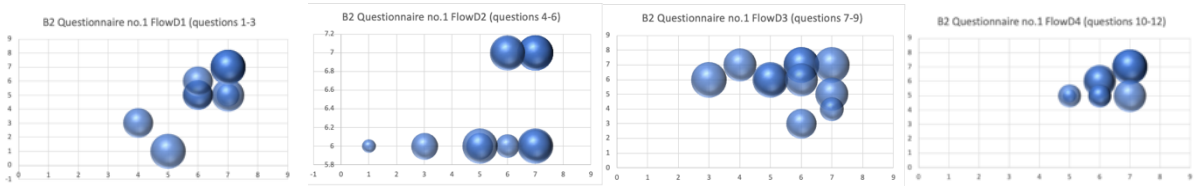



**Figure 6.7** - In contrast, B2 showed an overall increase in score from D1-D4. Although D2 (Immersion and time transformation) showed some low scores, by D4, the data indicates a Flow state.

B3 QUESTIONNAIRE 1 (Control group)

D1 D2 D3 D4

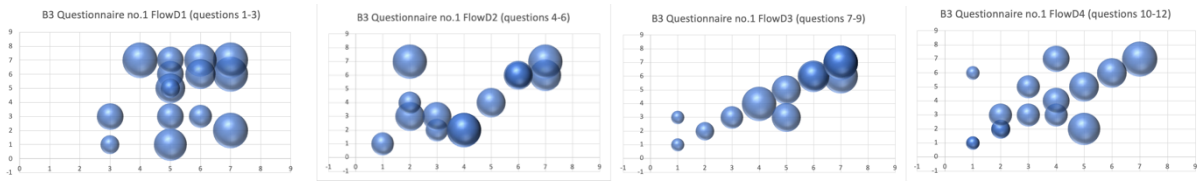



**Figure 6.8** - In B3 also, all the Dimensions from D1-D4 showed no direction or movement in the score.

B4 QUESTIONNAIRE 1 (VAMP-infused group)

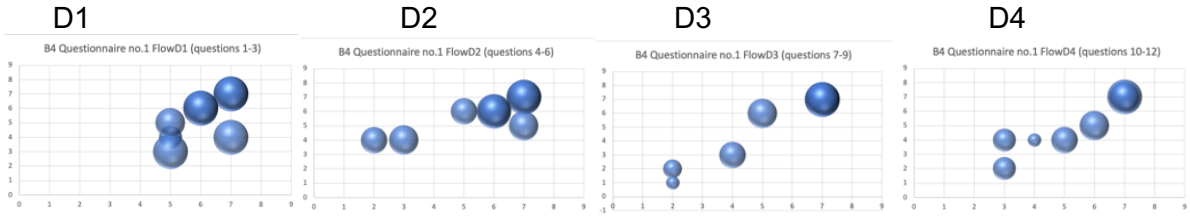



**Figure 6.9** - The data for B4 shows some high scores with no specific fluctuation between all four Dimensions.

B5 QUESTIONNAIRE 1 (VAMP-infused group)

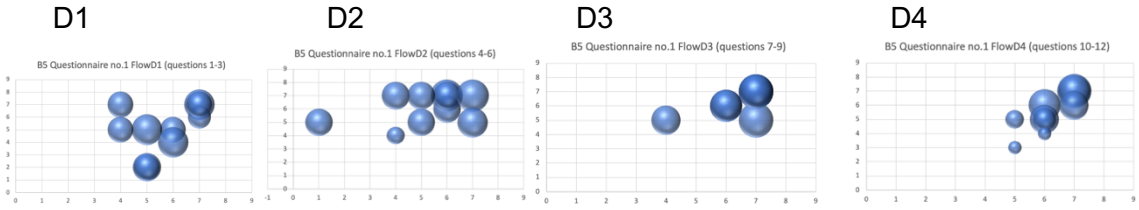



**Figure 6.10** - B5 results show consistently higher scores from D2 – D4.

**QUESTIONNAIRE 1 TEACHER'S NOTES**

All classes seemed to have enjoyed the lesson. Although most admitted that they forgot how to read the notes on the G clef, they managed to play the simple bass melody and accompany the main piano melody I played. The anticipation of sounding well in the final recording was similar in all the classes; however, the VAMP-infused groups. seemed to be a bit more preoccupied with the final result and insisted on recording their performance more than once. As mentioned in the previous Chapter, the difference between the controlled and the VAMP-

infused lessons was the added visual displays of the Prelude and the discussion of visualising a movie scene.

The VAMP classes immersed themselves in the conversation of how their movie scene should be and gave some answers that the music theory on the scene could support. For example, when student (B55570.8F)[27] described a picnic scene by a river, I asked her whether there was a conversation in the scene. She said, "No, because there are only nature sounds and the music to accompany the scene. Anyway, the music is too busy to hear any conversation". Another student (B45542.11F) in the VAMP-infused group described a scene of someone having a flashback of his life in black and white. She explained that the piece's repeated motive and movement was the right music for a life review flashback, indicating that the music was either happy or sad, the same as her scene from her imaginary movie. Both students, without realising they had 'adjusted' their imaginary scenario to fit with the music and 'followed' without knowing some of the sound-on-film rules, such as avoiding adding dialogue in a busy middle-range melody. Both students marked D4 in Questionnaire 1 with an average of 6 and 5, respectively[28].

**6.5.2 QUESTIONNAIRE 2** (2-3 lessons) Learning the Greek Zeibekiko rhythm from a well-known Greek song. The end task was to audio record the class performance, of accompanying the piano part with a bass of the rhythm on their keyboards.

**Teaching process:**

Control Classes B1 and B3 – clapping the rhythm along with the song. Playing the bass line in the rhythm of the Zeibekiko given song on their keyboards.

VAMP Classes B2, B4 and B5 – In addition to the above, they watched the teacher dance the song in the classroom. Then they were asked to draw in any way possible the rhythm on a piece of paper without using notation - actual rhythm - 9/4

[27] Please take note of the coding system for numbering students. The initial letter and number indicate the group, while the last number/s after the decimal point indicates the student's number in the Excel sheet. For example, B15988.10F refers to a student in group B1 with the Excel number 10, Female.

[28] All Questionnaire results by student are available in the Appendix section (6.4).

From the table (6.11) it is apparent that VAMP-infused groups scored higher than the Control ones.

| **Questionnaire 2** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 5.5 | **6.1** | 5.2 | **5.9** | 5.5 |
| Question 2 | 5.9 | **6.1** | 5 | 5.7 | **6** |
| Question 3 | 5.5 | **6.2** | 5.4 | **5.6** | 5.5 |
| Question 4 | 4.3 | **5.9** | 5 | 5 | **5.1** |
| Question 5 | 5.3 | **5.7** | 5.5 | 4.8 | 5.1 |
| Question 6 | 4.7 | **5.6** | 5 | 4.4 | **6** |
| Question 7 | 4.9 | 5.5 | 5.6 | 5.1 | **6.2** |
| Question 8 | 5.1 | 5.4 | 5.5 | 5.3 | **6.3** |
| Question 9 | 5 | 5.5 | 5.6 | 5.2 | **6.1** |
| Question 10 | 4.3 | **5.2** | 4.5 | **4.8** | **5.5** |
| Question 11 | 4.1 | **5.3** | 4.6 | **4.8** | 4.5 |
| Question 12 | 2.3 | **4.5** | 3.5 | 3.3 | 2.9 |

**Table 6.11** – B2 scored higher in nine out of the twelve questions in Questionnaire 2. B5 came second and B4 third.

B1 QUESTIONNAIRE 2 (Control group)

D1 D2 D3 D4


**Figure 6.12** – B1 results show a relatively high concentration of scores, especially in Dimension 1; in Dimension 2, the scoring is just above the middle, and in Dimensions 3 and 4, there is no significant change to detect the Flow state.

B2 QUESTIONNAIRE 2 (VAMP-infused group)

D1 D2 D3 D4

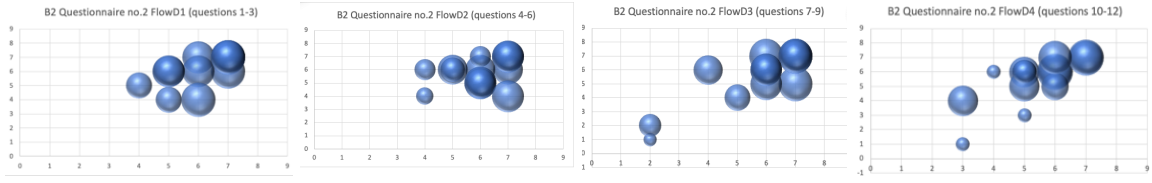


**Figure 6.13** – B2, compared with the above B1 results, shows a consistently higher concentration of scores in almost all the dimensions.

B3 QUESTIONNAIRE 2 (Control group)

D1 D2 D3 D4

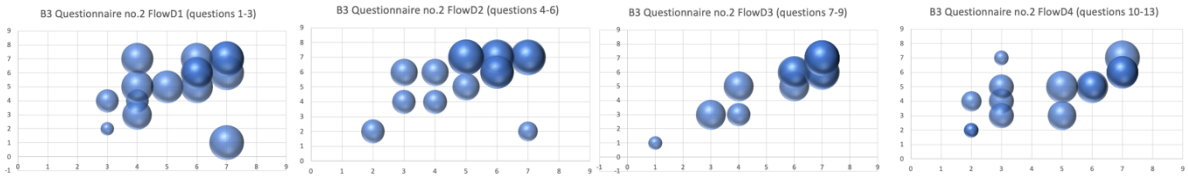



**Figure 6.14** - B3 shows the consistency of multiple levels of scores throughout all four dimensions. Especially in Dimension 4, there is no obvious high score concentration to indicate Flow state, compared to B2.

B4 QUESTIONNAIRE 2 (VAMP-infused group)

D1 D2 D3 D4

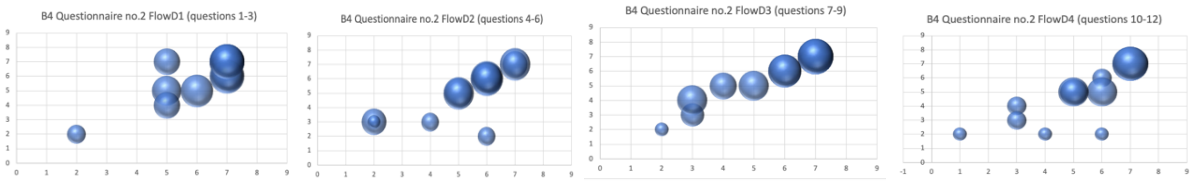



**Figure 6.15** - In the B4 group, although the sample of students that answered the questionnaire was fewer than in all the other groups, most of the students, almost in all dimensions, scored relatively higher than the Control groups B1 and B3.

B5 QUESTIONNAIRE 2 (VAMP-infused group)

D1 D2 D3 D4

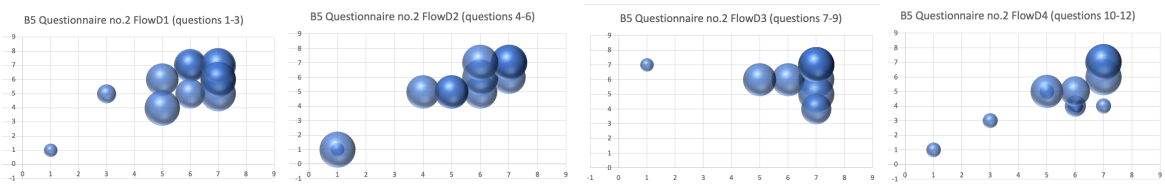



**Figure 6.16** - B5 shows high concentration scores, except in Dimension 2, which seems low. Dimension 4, however, indicates that the Flow state has the biggest concentration of high scores.

The analysis of collected data from Questionnaire 1 and Questionnaire 2 showed consistent findings. This supports the idea that groups infused with VAMP reported experiencing a significantly higher Flow state than the Control groups.

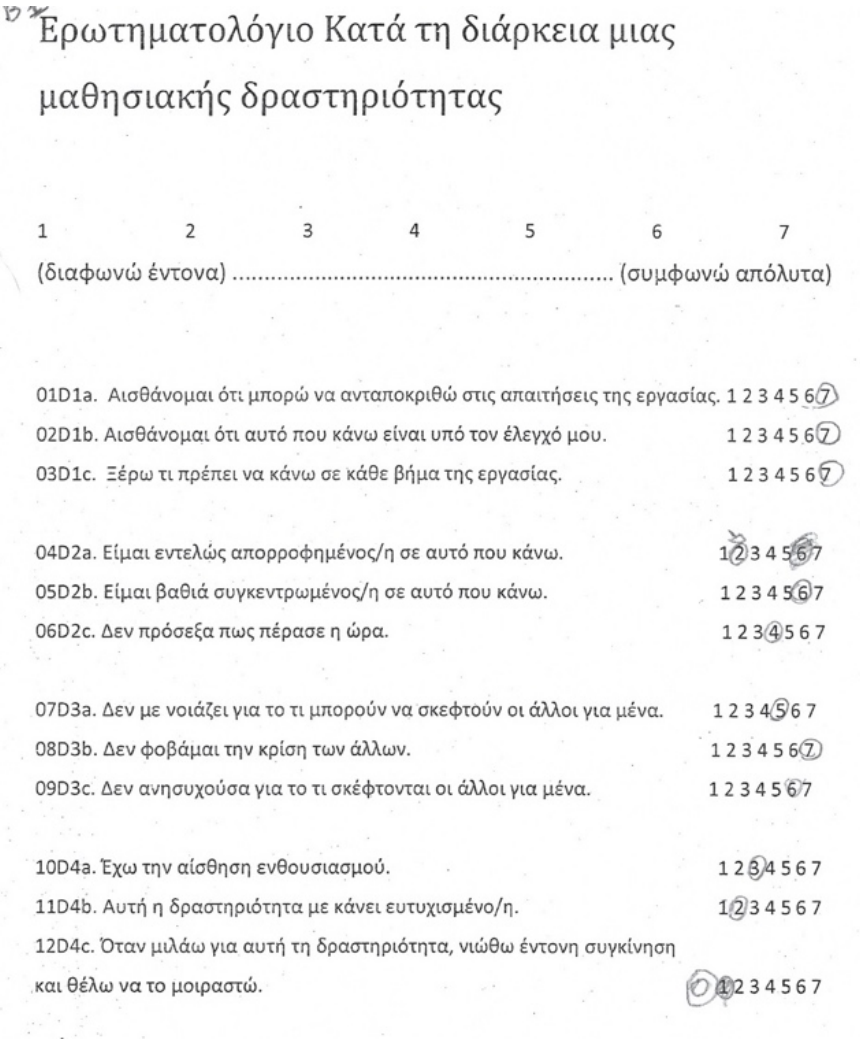
**QUESTIONNAIRE 2 TEACHER'S NOTES**

The data from Questionnaire 2 (2-3 lessons) on the Zeibekiko Greek dance, like Questionnaire 1, showed higher scoring in VAMP-infused groups compared to the controlled ones. Both the VAMP-infused and Control groups responded positively to this lesson. The Zeibekiko rhythm is very well known as it is used in many 'Laika' songs that are very popular in social gatherings. It is worth mentioning again that part of the VAMP-infused lessons for Zeibekiko rhythm in Questionnaire 2 was the viewing of a small film of a dramatisation of the taught song, and the students also had the opportunity to see me dancing to the song and then asked to draw in any way possible the Zeibekiko rhythm. When I started dancing for the VAMP-infused groups, the students were both excited and surprised; however, none of the three VAMP-infused groups made me feel uneasy, even though I have made it clear to them that dancing does not come easy for me, especially as part of the lesson. I am raising this as an important point as part of the research results because being honest and receiving encouragement from the students regarding my dancing in the VAMP-infused groups is an activity that will show a difference in the results in Questionnaires 6 and 7.

The VAMP-infused group's reaction and participation in the visual display of my dancing the Zeibekiko dance by listening to the well-known taught lesson "Niktose xoris Feggari" was enthusiastic. They tried to 'capture' the rhythm and put it on paper, and also, a student drew me dancing (Chapter 5, Figure 5.17). In general, both the Control and VAMP-infused groups appeared to have enjoyed the lessons on the Zeibekiko rhythm as this dance is very popular in Cypriot and Greek culture. Based on the data provided, the results of the questionnaire came with no surprises, however, a student from Control group B1 (B15609.4M), (Figure 6.17), marked question 12 with 0[29]. Although the D1 was marked with 7, D4 was marked very

[29] When the students mark 0 in the questionnaire, I use in the data the nearest number, which is one. All the students that mark 0 in the questionnaire are discussed in the Teacher's notes section.

low without the student in the classroom to show any specific discomfort regarding any the activities.



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 0 1 2 3 4 5 6 7

**Figure 6.17** – Questionnaire 2, student (B15609.4M) shows dissatisfaction by marking with zero question 12.

**6.5.3 QUESTIONNAIRE 3** (2-3 lessons) Becoming familiar with Rock music – given the song 'Knocking on Heavens Door'. The end task was to record the class playing the melody and singing the song.

**Teaching process:**

Control Classes B1 and B3 – Watched the 'Guns and Roses' version of the song. Discussed the history of rock. Sing the song, follow the melody on G clef, and perform the song.

VAMP Classes B2, B4 and B5 – In addition to the above, students watched the original song from the film Pat Garrett and Billy the Kid (Peckinpah1973). And they were asked to draw above the lyrics how the melodic line was going in order, later, to be able to play the melody by ear.

Overall, both Control and VAMP-infused groups received all the lessons and the classroom activities well.

Like the previous two questionnaires, this third one shows again that VAMP-infused groups show higher scores than the control ones (Table 6.18). It is clear that the B2 VAMP-infused group scored higher than all the other groups, followed by VAMP-infused groups B5 and B4. B3, however, showed for the first time a higher score than all the other groups in Question 11, "This activity makes me happy".

| **Questionnaire 3** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 5.3 | **6.4** | 5.6 | 5.6 | **5.8** |
| Question 2 | 5.6 | **6.2** | 5 | 5.3 | **5.7** |
| Question 3 | 5.4 | **6.2** | 5 | **5.6** | **5.9** |
| Question 4 | 4.7 | **5.7** | 4.8 | **5** | 3.9 |
| Question 5 | 4.6 | **5.6** | 5.1 | **5.4** | **5.4** |
| Question 6 | 5.4 | 6 | 6 | 5.3 | 5 |
| Question 7 | 5 | **5.5** | 5 | 4.5 | **6.1** |
| Question 8 | 4.8 | **5.5** | 5 | 4.6 | **6.2** |
| Question 9 | 5 | **6** | 5.4 | 4.1 | **6.2** |
| Question 10 | 4.4 | **5.9** | 5.1 | 4.1 | 4 |
| Question 11 | 4.3 | **5** | **5.2** | 4.5 | 4.4 |
| Question 12 | 2.6 | **4** | 3.7 | 3.4 | 3.1 |

**Table 6.18** – B2 shows the highest score, followed by B5 and B4. B3 shows in question 11 the higher score.

B1 QUESTIONNAIRE 3 (Control group)

D1 D2 D3 D4

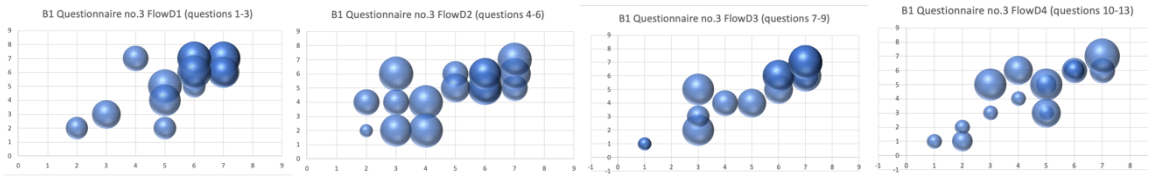



**Figure 6.19** - In Control group B1 the results, as shown above, indicate no concentration of the results that indicate flow. From Dimensions 1 – 4, the answers are similar throughout.

B2 QUESTIONNAIRE 3 (VAMP-infused group)

D1 D2 D3 D4

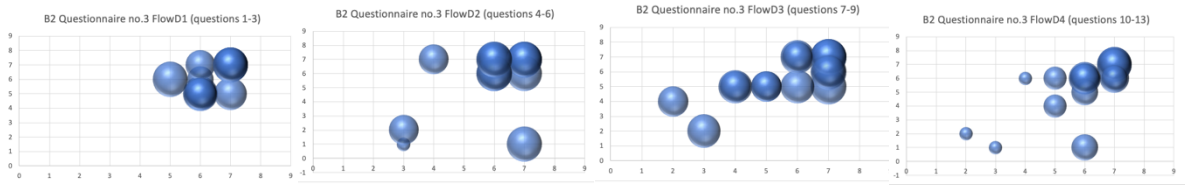



**Figure 6.20** - In VAMP-infused group B2, there is a clear concentration on higher scores in Dimension 1, whilst Dimension 2-4 show similar scores of middle to high.

B3 QUESTIONNAIRE 3 (Control group)

D1 D2 D3 D4

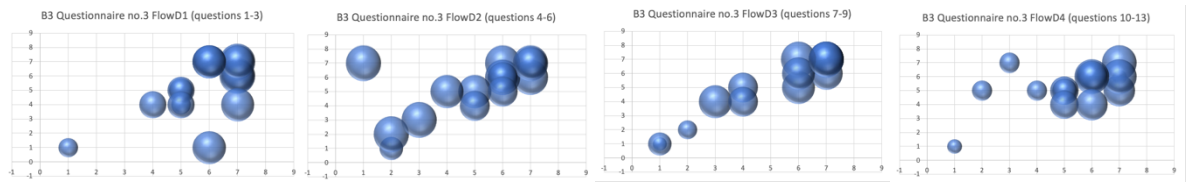



**Figure 6.21** - B3 scores similarly to the VAMP-infused group B4 (Table 6.18). From all the groups, B3 scored higher in question 11 (This activity makes me happy).

B4 QUESTIONNAIRE 3 (VAMP-infused group)

D1 D2 D3 D4

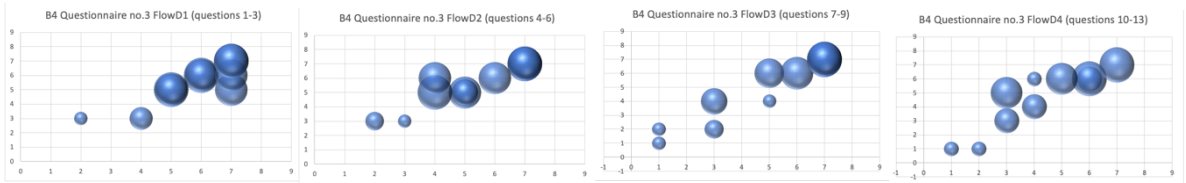


**Figure 6.22** - As seen in Table 6.18, B4 shows higher scores from the Control groups but lower in the VAMP-infused ones. In D4, however, B4 and B5, as seen in the pictures above and below, the results are almost identical, showing a low concentration of scores.

B5 QUESTIONNAIRE NO.3 (VAMP-infused group)

D1 D2 D3 D4

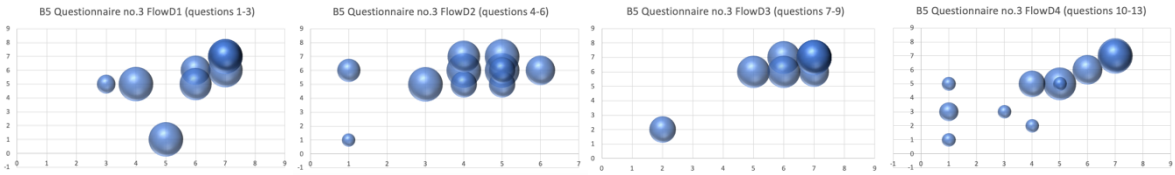
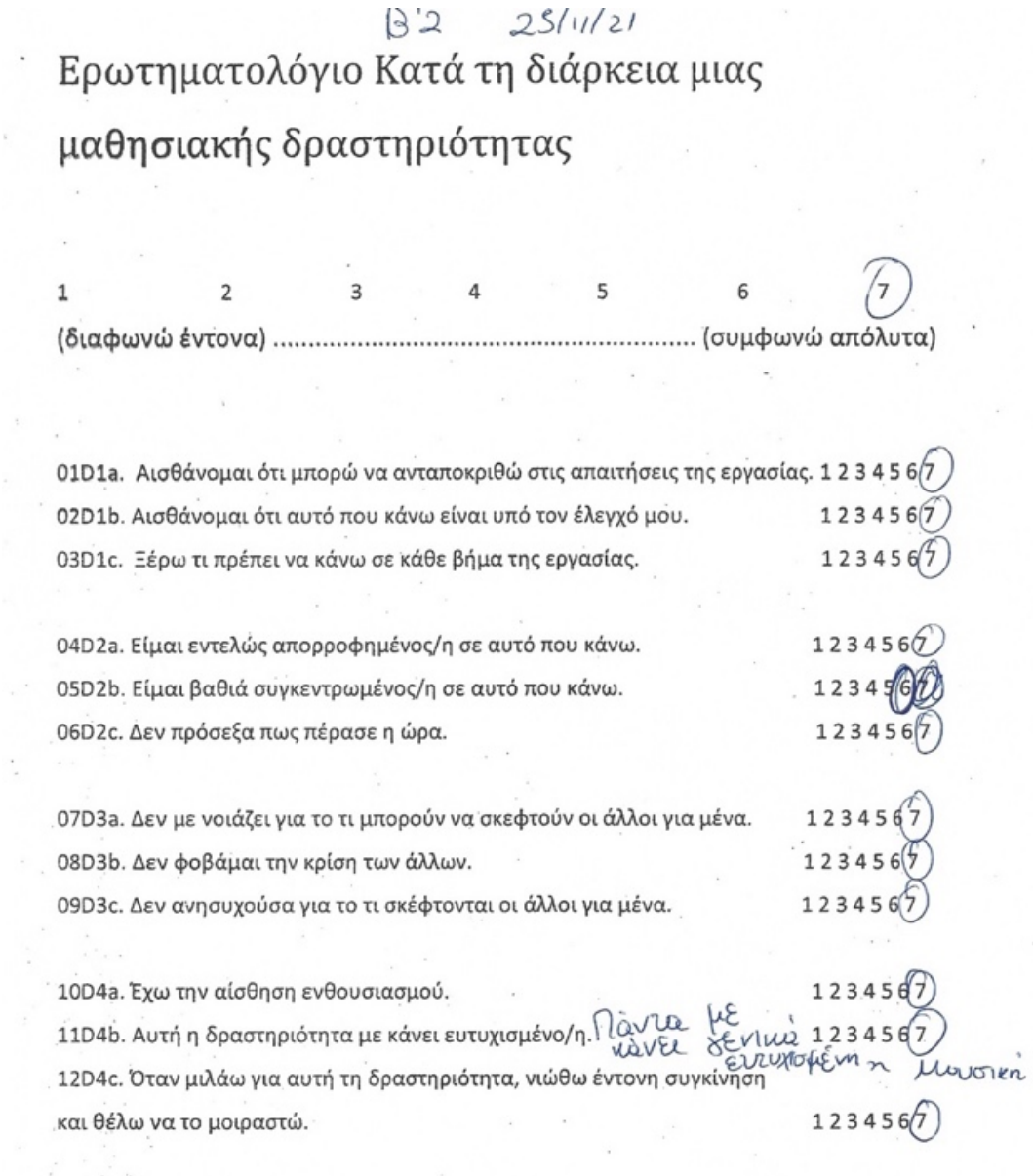



**Figure 6.23** - B5 scored second higher on the Likert scale after B2. As shown here, almost all dimensions scored high, having D4 being the higher scoring.

**QUESTIONNAIRE 3 TEACHER'S NOTES**

In the set of lessons on Rock music that Questionnaire 3 was focused on, the students showed much enthusiasm. It is worth mentioning the two questionnaires that the students felt the need to add comments on their questionnaires. The first is the student (B25546.15F) in the B2 group next to question 11 - This activity makes me happy (Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η), she added an extra statement – "Πάντα με κάνει γενικά ευτυχισμένη η Μουσική" - Music always makes me generally happy (Figure 6.24).



Β2 25/11/21

Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7

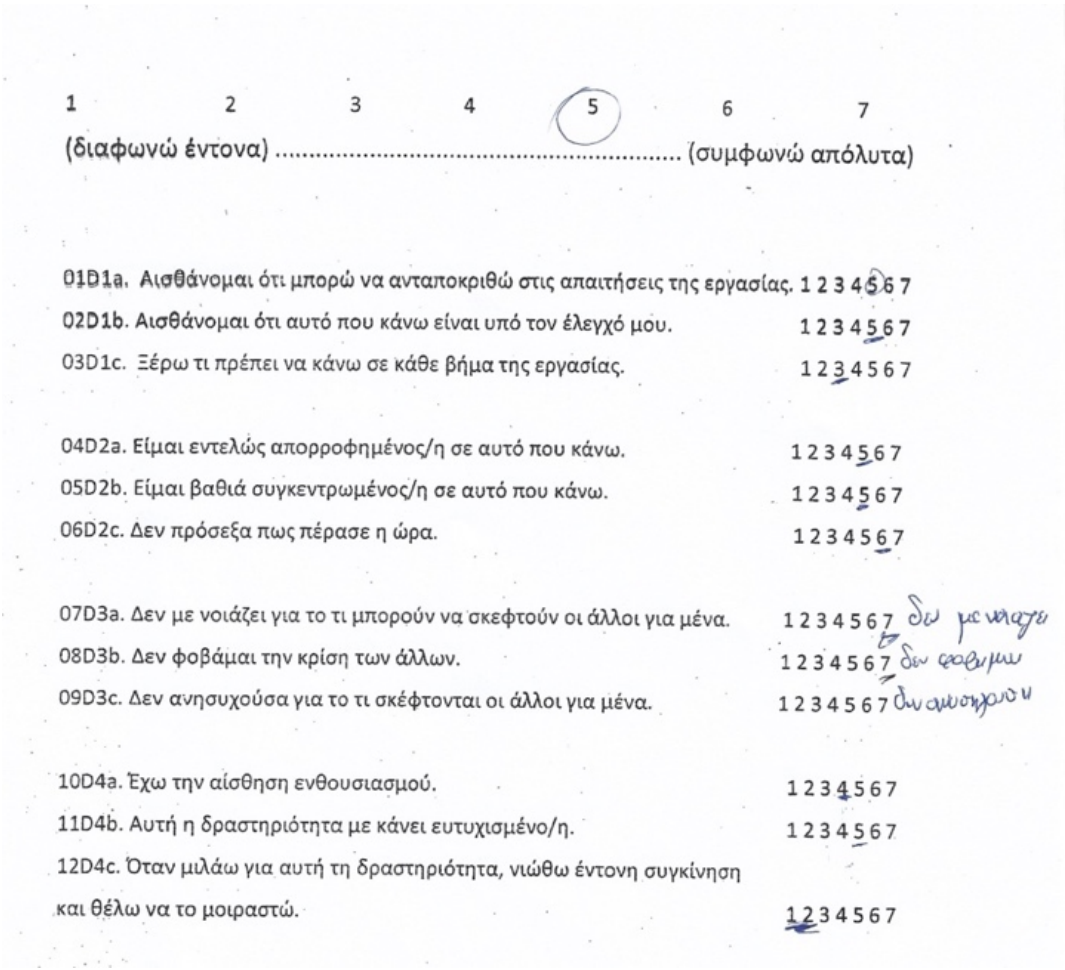
11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. Πάντα με κάνει χαρούμενη 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 6.24** – Questionnaire 3, Student (B25546.15F) added an extra comment to question 11 'This activity makes me happy' – Music always makes me generally happy.

Another example of a student (B35548.9M) in group B3 that felt it was necessary to point out by repeating the words in Dimension 3 next to mark 7 (Figure 6.25), the words, 'don't care', 'not afraid' and 'not worried'. In the question 7 - I didn't care about what the others could think of me - repeated the word "δεν με νοιάζει" (I don't care) as an extra statement. The same happened in question 8 - I don't fear the judgment of others – he repeated the word "δεν φοβάμαι" (I don't fear). Again, in question 9 - I didn't care about what the others could think of me – he repeated the word "δεν ανησυχώ" (I don't worry). Although this student marked question 12 very low, he felt it was necessary to state that he does not value his peer's opinions about him. This student has significant potential, yet exhibits a lack of enthusiasm in the

classroom activities. Through this statement, he aims to emphasise that his diminished enthusiasm is not a result of fearing criticism from his peers.



1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7 δεν με νοιαζει

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7 δεν φοβαμαι

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7 δεν ανησυχουσα

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 6.25** – Questionnaire 3, Student B35548.9M makes sure in D3 that the opinion of others does not influence him by repeating the statements.

Overall, the results from Questionnaire 3 indicate that there were no significant differences in the classroom experience while teaching this particular set of lessons. Additionally, I cannot recall any noteworthy incidents that occurred during the delivery of these lessons.

**6.5.4 QUESTIONNAIRE 4** (2-3 lessons) - Popular music – Xmas covers, Hallelujah by Leonard Cohen. The end task was to perform by singing the song in a classroom audio recording.

**Teaching process:**

Control Classes B1 and B3 – sang the song and discussed the lyrics. Discussion on adaptations of songs that are regarded as Xmas songs. Also watched the performance by Leonard Cohen live in London (2009).

VAMP Classes B2, B4 and B5 - In addition to the above, students watched Shrek 2001 (Jenson and Adamson 2001), Alexandra Burke of 2008 Xfactor final (Miketop 2011), Pentatonix (2016), and Jeffrey Adam Gutt's (2013) (Petacha 2013) cover of the song and discussed the different meanings of each performance. Students also draw appropriate pictures of expression for their own interpretation of the song above the lyrics in their handouts.

The data results in Questionnaire 4 are in overall favour of VAMP-infused groups except for question 9 (I was not worrying about what the others think about me), which shows indifference among all groups (Table 6.26).

| **Questionnaire 4** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 5.5 | **6.7** | 5.5 | **5.9** | **6.4** |
| Question 2 | 5.5 | **6.5** | 5.3 | **5.8** | **5.7** |
| Question 3 | 5.7 | **6.7** | 5.4 | **6.1** | **6.5** |
| Question 4 | 4.4 | **6.1** | 5.4 | 4.9 | 5 |
| Question 5 | 4.5 | **6.1** | 5.3 | 5.3 | **5.5** |
| Question 6 | 4.7 | **5.9** | 5 | **5.2** | **5.2** |
| Question 7 | 4.1 | **5.7** | 5.5 | 3.6 | **5.9** |
| Question 8 | 4.4 | **5.8** | 5.5 | 3.7 | **5.9** |
| Question 9 | 4.3 | 6 | 6 | 3.5 | 5.8 |
| Question 10 | 4.4 | **5.9** | 5 | 5 | 4.8 |
| Question 11 | 4.1 | **5.8** | 5.4 | 5.1 | 4.7 |
| Question 12 | 2.2 | **5.3** | 4.5 | 4.1 | 3.2 |

**Table 6.26** - B2 shows the highest score in almost all questions except question 9, 'I was not worrying about what the others think about me'. The next group with higher scores is B5, followed by B4. None of the Control groups scored any questions higher than the VAMP-infused groups.

B1 QUESTIONNAIRE 4 (Control group)

D1 D2 D3 D4

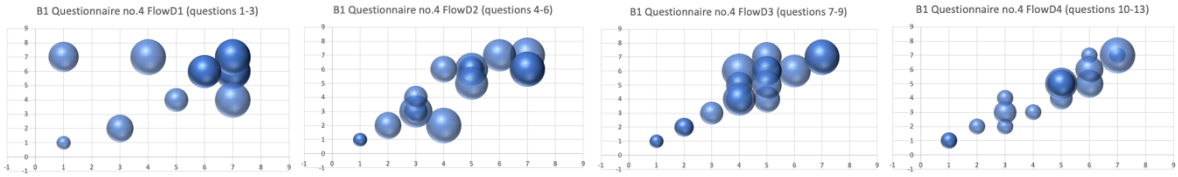



**Figure 6.27** - B1 diagram shows D2 to D4, no significant change within the Dimensions concentration on high scores. The contribution of scores does not indicate Flow.

B2 QUESTIONNAIRE 4 (VAMP-infused group)

D1 D2 D3 D4

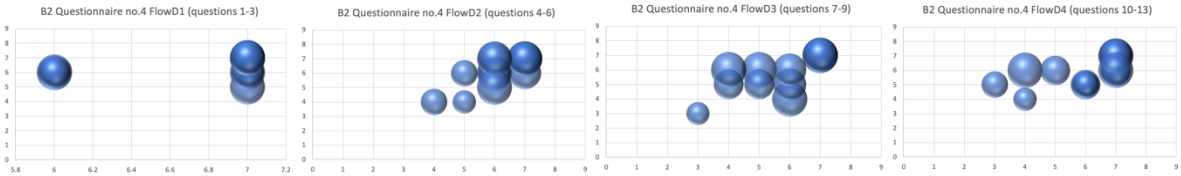



**Figure 6.28** - Contrary to B1, the dimension diagram in group B2 shows a constant upper concentration in all four dimensions.

B3 QUESTIONNAIRE 4 (Control group)

D1 D2 D3 D4

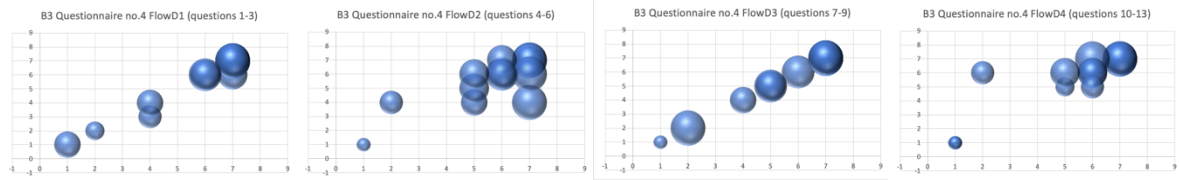



**Figure 6.29 -** The data shows that B3 scored higher in D4 than the VAMP-infused groups B4 and B5.

B4 QUESTIONNAIRE 4 (VAMP-infused group)

D1 D2 D3 D4

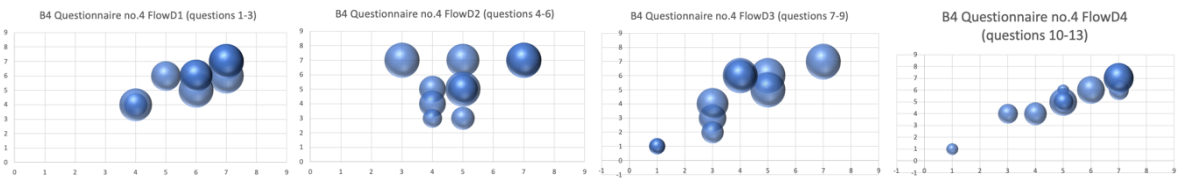



**Figure 6.30** - B4 had the lower score of all the groups in D3 and overall scored the lower from all the VAMP-infused groups in this questionnaire.

B5 QUESTIONNAIRE 4 (VAMP-infused group)

D1 D2 D3 D4

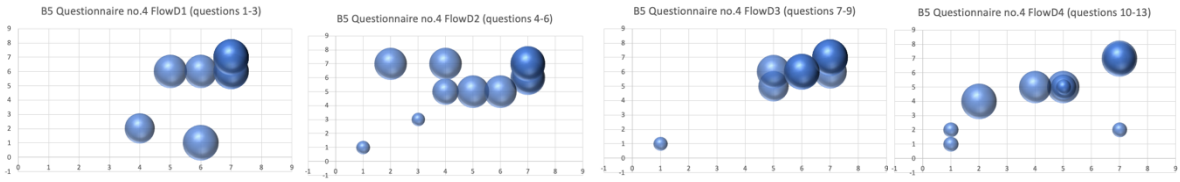
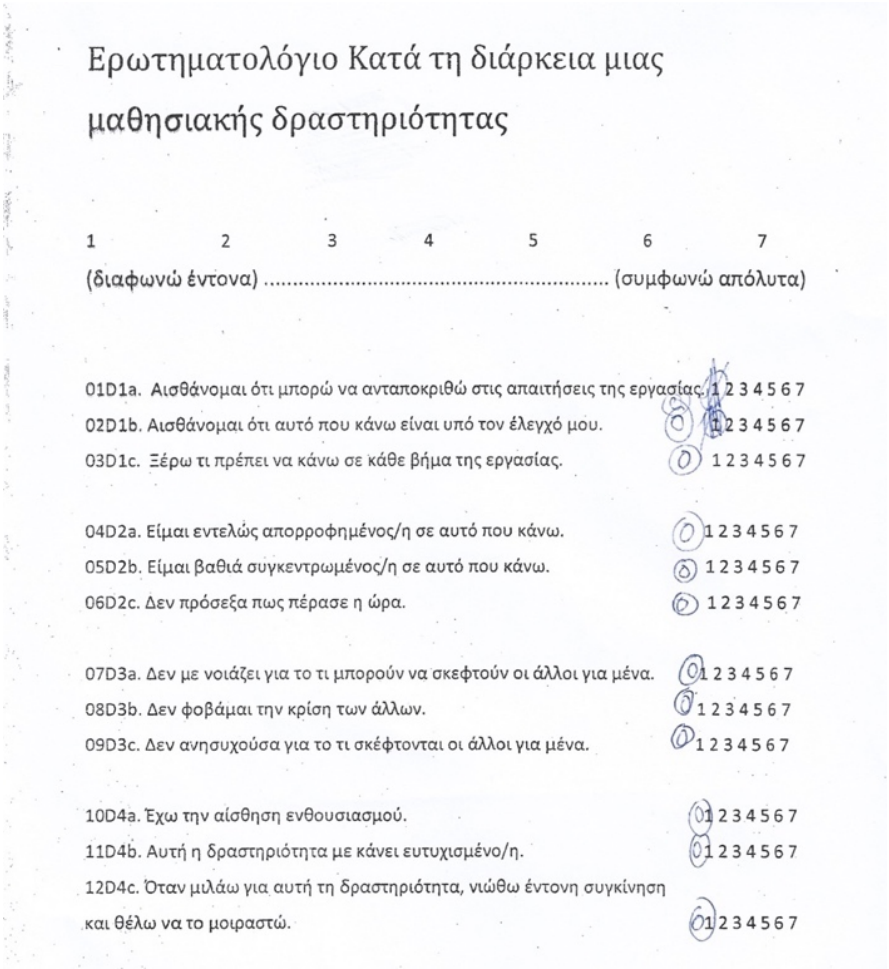



**Figure 6.31** - B5, although higher in the overall scoring from B4, the first Dimension was very close to B4. B5 here shows a higher score in D3 from all the other groups; however, it failed to show a significant concentration of Flow in D4 as the scores are all over the Likert scale.

**QUESTIONNAIRE 4 TEACHER'S NOTES**

I thoroughly reviewed my teacher's notes but could not find any explanation for the improvement of B3 in the higher scores of the previous questionnaires. As discussed in the Ethics section of this chapter, B3 is the only class in the research I also have management and disciplinary duties; however, if this was the case of a given 'high score' to adulate me for possible disciplinary purposes, it should have shown from Questionnaire 1.

The student (B15713.10F) in the B1 group felt the need to add the number zero in all the answers as she felt that the number 1 was not low enough for all the questions (Figure 6.32). This student came from another school with her sibling, as she has great difficulty opening up and connecting with her peers and teachers. The same student marked Questionnaire 2 with an average in all Dimensions of 4.9 out of 7, and in Questionnaire 3, an average of 2.5 in all Dimensions. From this questionnaire onwards, she marks all questionnaires with either 1 or 0. Nothing, as far as I am aware, happened during those lessons that caused this dissatisfaction in the lessons that is reflected in the low scoring.



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 0 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 0 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 0 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 0 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 0 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 0 1 2 3 4 5 6 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 0 1 2 3 4 5 6 7

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 0 1 2 3 4 5 6 7

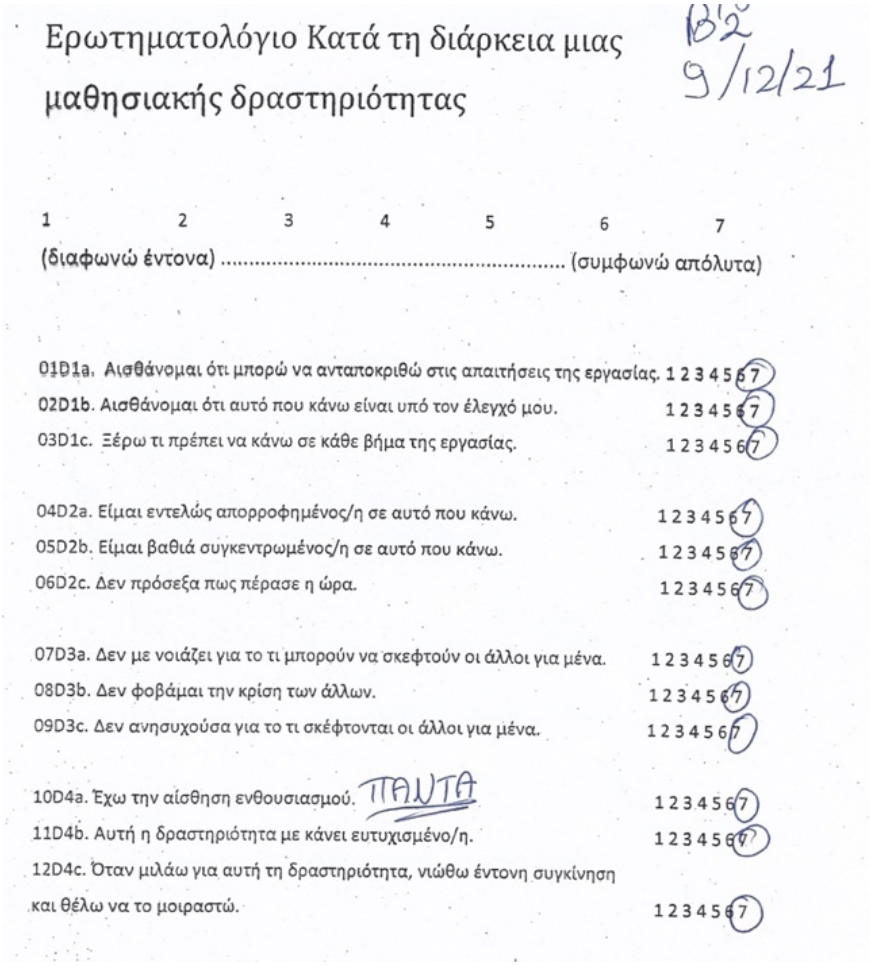
10D4a. Έχω την αίσθηση ενθουσιασμού. 0 1 2 3 4 5 6 7

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 0 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 0 1 2 3 4 5 6 7

**Figure 6.32** – Questionnaire 4, student (B15713.10F) felt the need to add the digit zero in the questionnaire to make her dissatisfaction with the lessons more obvious.

In group B2 the student (B25546.15F) wrote again on her questionnaire, this time with a one-word statement, the word ‘ALWAYS’ in Greek ‘ΠΑΝΤΑ’ in capital letters next to question 10 (I have the feeling of living a moment of excitement) (Figure 6.33). This student throughout all the questionnaires, her average mark was 7. She was always very enthusiastic and keen to participate in all the classroom activities.



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

B2
9/12/21

1 2 3 4 5 6 7
(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7
02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7
03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

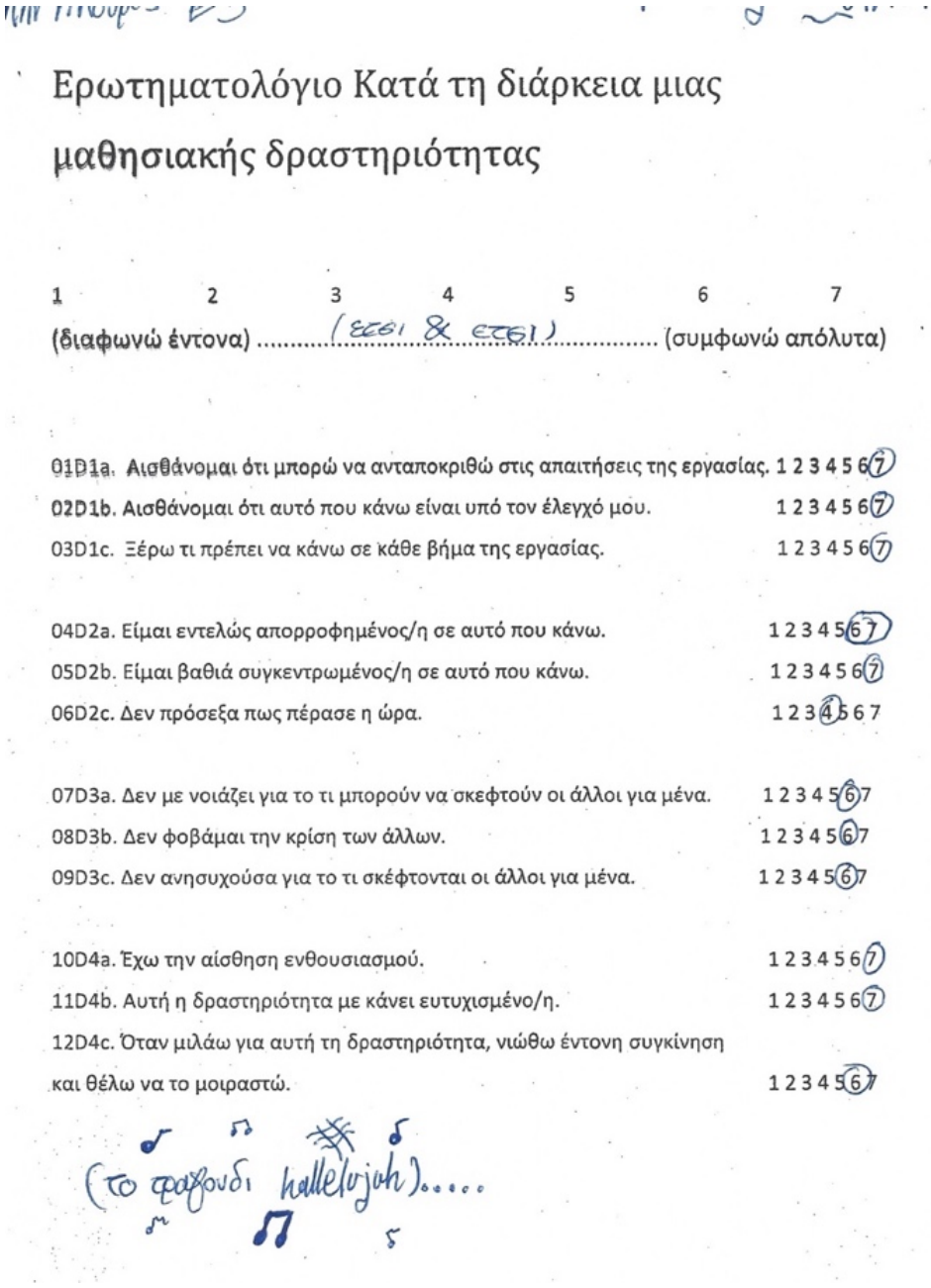
04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7
05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7
06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7
08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7
09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. ΠΑΝΤΑ 1 2 3 4 5 6 7
11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7
12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 6.33** – Questionnaire 4, student (B25546.15F) added the word 'ALWAYS' in Greek next to question 10 'I have the feeling of living a moment of excitement'.

In B3, the student (B35603.3F) drew the song's title at the bottom of the questionnaire's page with some notes. Although the marks in all Dimensions are above 4 (most of them 7), the student wrote on the top of the page underneath the Likert Scale explanation the words "έτσι & έτσι" meaning "so and so" (Figure 6.34).



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (εξαι & επτά) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 (7)

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 (7)

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 (7)

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 (6) 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 (7)

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 (4) 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 (6) 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 (6) 7

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 (6) 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 (7)

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 (7)

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 (6) 7

(το τραγουδι hallelujah).....

**Figure 6.34** – Questionnaire 4, student (B35603.3F) drawing and the high scoring indicated satisfaction. On the explanation part of the Likert scale scoring, she wrote ‘so and so’ at the top of the questionnaire.

During the teaching of Questionnaire 4, no major incidents occurred aside from the curriculum changes in the VAMP-infused, which were noted in my teacher's note. This allowed for a consistent experience across all classes without any notable distinctions except the elevated scoring of B3 from the previous questionnaires. Despite Control group B3 having a higher score, the VAMP-infused groups still maintained their higher scoring compared to all Control groups.

**6.5.5 QUESTIONNAIRE 5** (2 lessons) – Opera/ Mozart/ Classic Period. Case study the Magic Flute. The end task was to perform 'Hallelujah' by Leonard Cohen in an operatic style using the diaphragm.

**Teaching process:**

Control Classes B1 and B3 – General information history of opera, Classic period. Scenes from the Magic Flute Performance. Singing with the use of the diaphragm.

VAMP Classes B2, B4 and B5 - In addition to the above, students watched the teacher exaggerating the facial expressions in a cartoon-like asked to imagine a cartoon-like face and exaggerate expressions when singing operatically. The students watched various small films about opera singing (focus on facial expressions/feelings).

The general data results, as seen in the above table, indicate once more VAMP-infused groups that demonstrate higher scores than the Control groups (Table 6.35).

| **Questionnaire 5** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 4.6 | **6.5** | 4.8 | 4.6 | 4.8 |
| Question 2 | 4.2 | **6.1** | 4.8 | 4.8 | **4.9** |
| Question 3 | 5.1 | **6.5** | 5 | **5.5** | **5.2** |
| Question 4 | 3.8 | **5.6** | 4.8 | **5** | 3.9 |
| Question 5 | 4 | **6.1** | 5 | 4.3 | 4.4 |
| Question 6 | 4.6 | 5.8 | **6** | 4.8 | 4.3 |
| Question 7 | 3.2 | **5.4** | 4.9 | 3.5 | **5.2** |
| Question 8 | 3.4 | **5.7** | 5 | 3.5 | **5.5** |
| Question 9 | 3.4 | **5.5** | 5 | 3.5 | **5.2** |
| Question 10 | 3.7 | **5.5** | 5 | 3.6 | 4 |
| Question 11 | 3.6 | **5.5** | 5 | 3.8 | 3.6 |
| Question 12 | 1.9 | **4.2** | 4.1 | 3.6 | 2.6 |

**Table 6.35** – B2 shows higher scores from all the groups. B3 Shows the higher score in question 6 (I don't notice the time passing).

B1 QUESTIONNAIRE 5 (Control group)

D1 D2 D3 D4

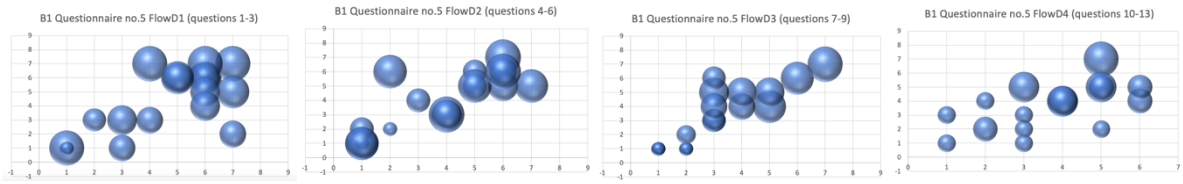



**Figure 6.36** - B1 shows a similar score throughout all Dimensions, and from all the groups, it has the lower score.

B2 QUESTIONNAIRE 5 (VAMP-infused group)

D1 D2 D3 D4

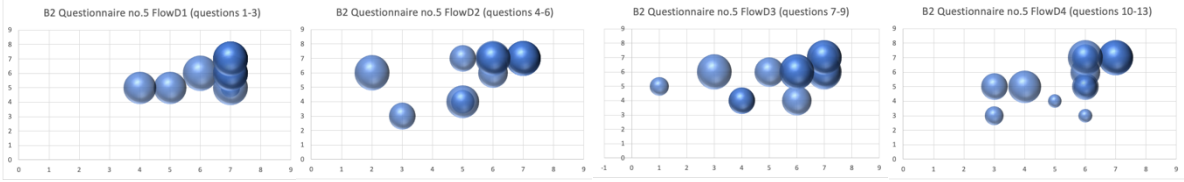



**Figure 6.37** - B2 shows the same consistency of high scores in all Dimensions and is the group that once more scored the higher in all Dimensions.

B3 QUESTIONNAIRE 5 (Control group)

D1 D2 D3 D4

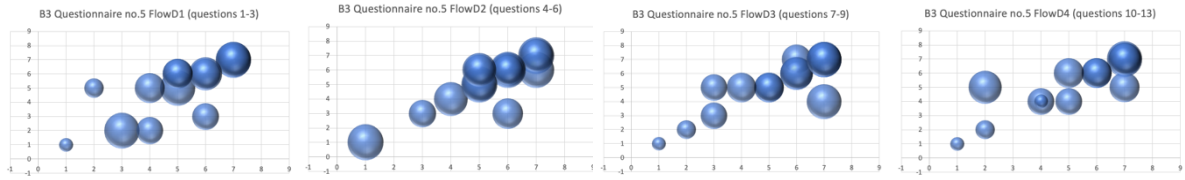



**Figure 6.38** - B3 in this questionnaire showed a higher score in question no.6 (I don't notice the time passing) among the rest of the groups.

B4 QUESTIONNAIRE 5 (VAMP-infused group)

D1 D2 D3 D4

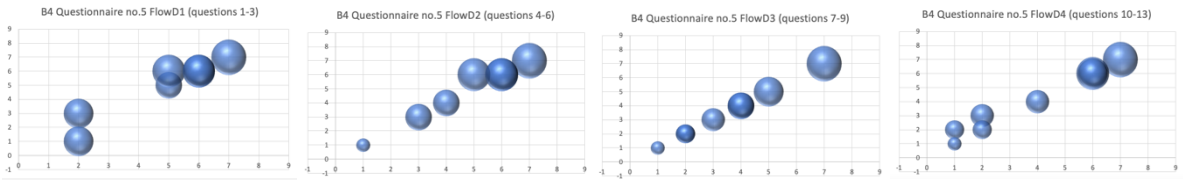



**Figure 6.39** - B4 was lower in score than all the VAMP-infused groups, especially in D3 and D4.

B5 QUESTIONNAIRE 5 (VAMP-infused group)

D1 D2 D3 D4

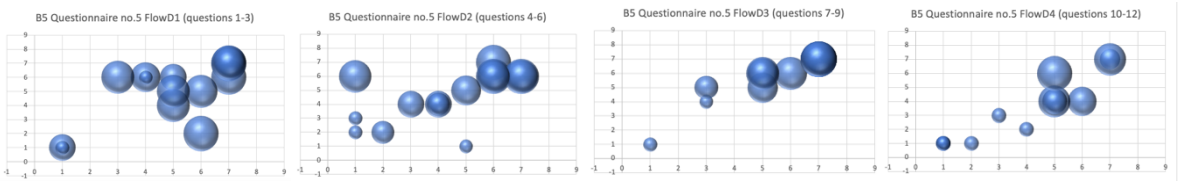
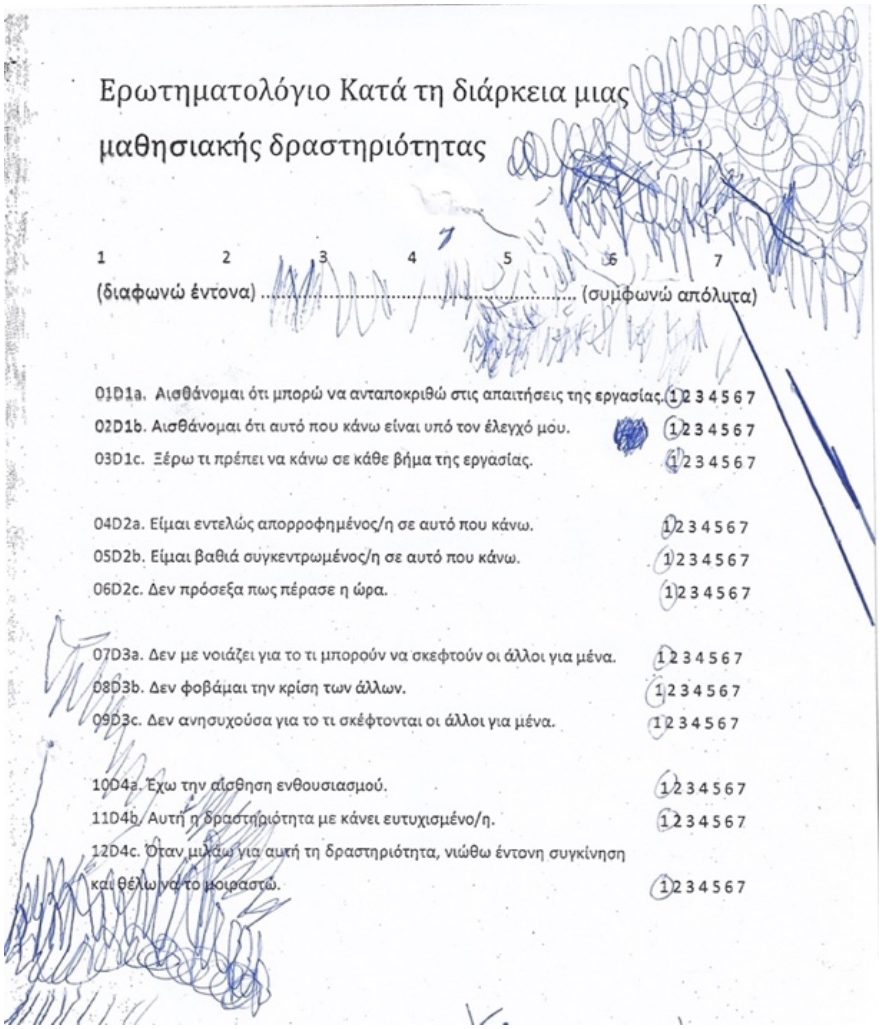



**Figure 6.40** - B5 showed no improvement in the scores from D1 to D4. However, it remained the second best after B2 from all the other groups in this questionnaire.

**QUESTIONNAIRE 5 TEACHER'S NOTES**

The lesson was mostly well received by all groups, but the topic of Opera and the technique of using diaphragm while singing did not seem to resonate as well as the previous lessons. This may have contributed to the declining scores. Once more, the only students that felt the need to add 'extra information' on their questionnaire answer sheet are the students (B15713.10F) in B1 and the (B25546.15F) in B2. The student in B1 expressed her frustration with an abstract drawing, although she had the chance to return the sheet as soon as she filled it out (Figure 6.41). The student in B2, this time, added in English the word (Always!!) next to question 11 (This activity makes me happy) (Figure 6.42).



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7

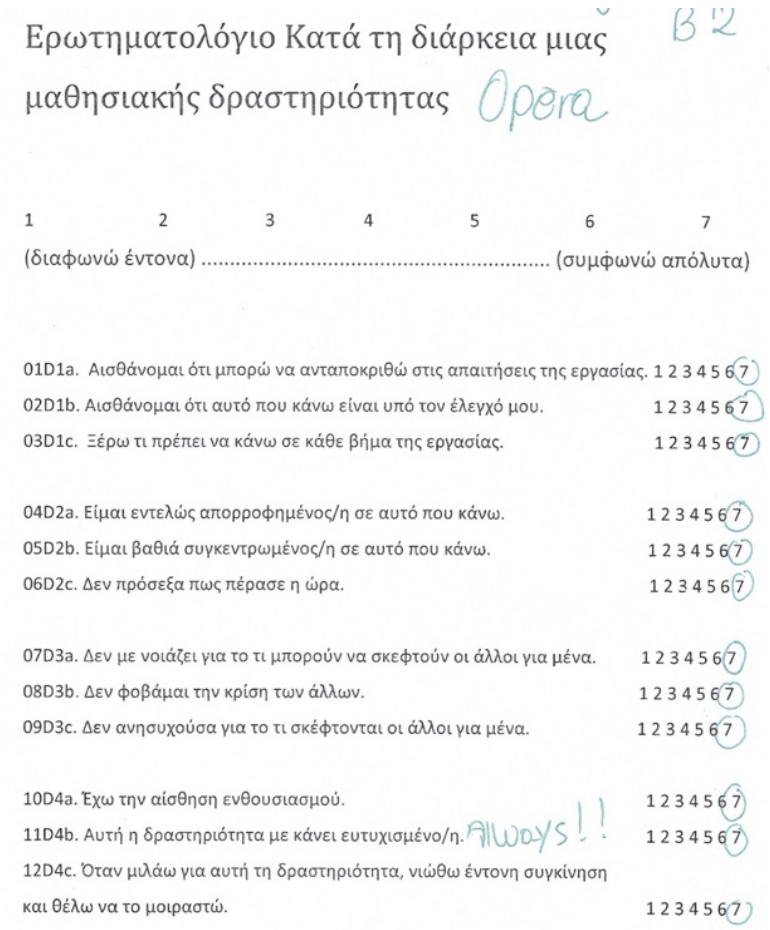
09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 6.41** – Questionnaire 5, student (B15713.10F) shows her frustration by drawing lines in the questionnaire.



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας Opera B2

1 2 3 4 5 6 7
(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7
02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7
03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7
05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7
06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7
08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7
09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7
11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. Always!! 1 2 3 4 5 6 7
12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 6.42** – Questionnaire 5, student (B25546.15) adds the word ‘Always’ next to question 11 ‘This activity makes me happy’.

Similar to the previous Questionnaire, group B2 received a significantly higher score than the other groups. Despite the students indicating that they worked well together, the lessons focused on singing and diaphragm usage did not reveal any clear signs of overall satisfaction or dissatisfaction within any of the classes.

**6.5.6 QUESTIONNAIRE 6** (2 lessons) Byzantine music («Σε Υμνούμε» - “Se Ymnoume”) Hymn **–** End task composing and performing a small phrase on their own by using the three basic Byzantine symbols.

**Teaching process:**

Control Classes B1 and B3 – getting familiar with the symbols. Singing a well-known Byzantine hymn, “Se Ymnoume”. Compose their own two-phrase hymn and sing it (individually or in pairs).

VAMP Classes B2, B4 and B5 - In addition to the above, students had to demonstrate their composition with movement in the classroom steps.

This questionnaire showed the biggest fluctuation of the data results from all the previous questionnaires. The reluctance shown in the VAMP-infused groups in demonstrating their composition by movement, as discussed in Chapter 5, was also reflected in the data results by having the control B3 ahead in the results for the first time. It was not surprising that the VAMP-infused groups had difficulty expressing their composition visually through movement, as their resistance was evident. The paradox, however, was that the fluctuation was not caused by the lower scoring from the VAMP-infused groups that were not happy to participate in the VAMP classroom activity, rather than the unpredicted higher scoring from only one of the two Control groups.

My expectation of VAMP-infused groups to mark lower was wrong as they kept their average score even though the students vocalised their disagreement with the visual part of demonstrating their composition. The group average remained the same, and the biggest surprise was the high scoring of the B3 group, without any expectation (Table 6.43). As I will discuss further in the teacher’s note section, although all the VAMP-infused groups participated in demonstrating with movement (as a visual display of their composition), they expressed their frustration with what I thought would be reflected in a low score of their questionnaires. After seeing the data, however, it was not a decline in the VAMP-infused groups that caused the fluctuation but the unexpected high scoring of B3. Although the Control groups B1 and B3 were taught the same, they were very dissimilar in their results; the VAMP-infused group B5 showed the second-best scores in questions 6 and 7. B2 came after B5, and B4 last in the VAMP-infused groups. Even thought they had to do the same ‘demonstration’ of their composition, something happened during the lesson in B5 that, as I will discuss in the teacher’s notes sections, might have influenced the results.

| **Questionnaire 6** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 5.3 | 5.9 | **6.2** | 5.4 | 5.5 |
| Question 2 | 4.6 | 5.8 | **6.5** | 5.5 | 5.4 |

| | | | | | |
|---|---|---|---|---|---|
| Question 3 | 4.9 | **6.1** | 6 | 5.6 | 5.2 |
| Question 4 | 4 | 4.8 | **6.1** | 4.6 | 4.3 |
| Question 5 | 4.5 | 5.8 | **6** | 4.5 | 5.1 |
| Question 6 | 4.8 | 5.1 | **6.5** | 4.8 | 5.1 |
| Question 7 | 3.1 | **5.1** | 5 | 3.5 | **5.3** |
| Question 8 | 3 | **5.7** | 5.5 | 3.7 | **5.9** |
| Question 9 | 3.1 | 5.2 | **5.7** | 3.5 | 5.5 |
| Question 10 | 3.8 | 5.2 | **5.8** | 4.2 | 4.8 |
| Question 11 | 3.6 | 5.2 | **6** | 4 | 4.1 |
| Question 12 | 1.7 | 4.6 | **4.8** | 3 | 3 |

**Table 6.43** - B3 shows higher in nine out of the twelve questions in Questionnaire 6.

B1 QUESTIONNAIRE 6 (Control group)

D1 D2 D3 D4

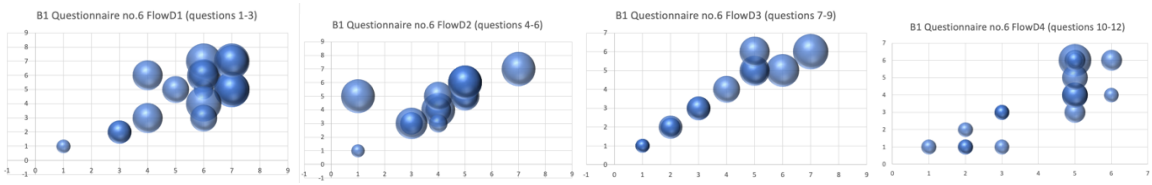



**Figure 6.44** - B1 marked the lower scoring from all the other groups. Up to this questionnaire, B1 and B3 were not far from the average scoring in all twelve questions. This questionnaire made a big gap between B1 and B3 for no specific reason, as the latter marked the higher among all the groups.

B2 QUESTIONNAIRE 6 (VAMP-infused group)

D1 D2 D3 D4

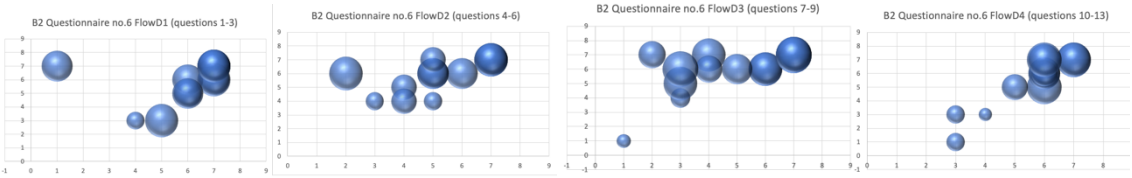



**Figure 6.45** - B2 kept the questionnaire average without any major fluctuation, and questions 7 (I didn't care about what others could think of me) and 8 (I don't fear the judgment of others) were the second highest after B5. However, Control group B3, as seen below, managed to overtake B2.

B3 QUESTIONNAIRE 6 (Control group)

D1 D2 D3 D4

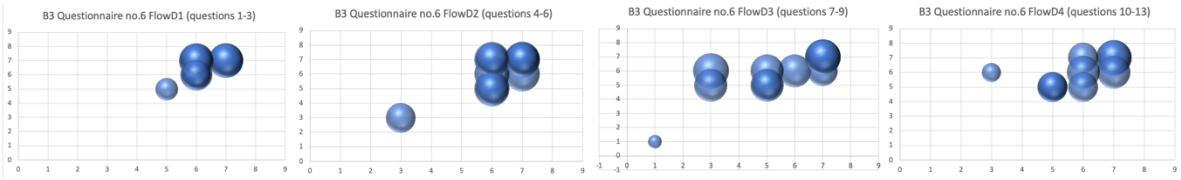



**Figure 6.46** - Control B3 marked the higher score in most Dimensions of all other groups.

B4 QUESTIONNAIRE 6 (VAMP-infused group)

D1 D2 D3 D4

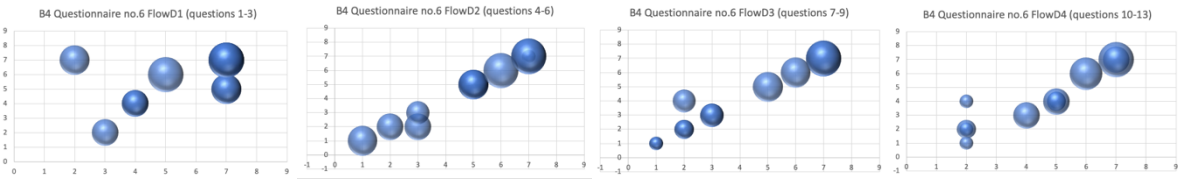



**Figure 6.47** - B4 marked the lower in the VAMP-infused groups. However, it showed no specific difference in the Dimension average from the previous questionnaires.

B5 QUESTIONNAIRE 6 (VAMP-infused group)

D1 D2 D3 D4

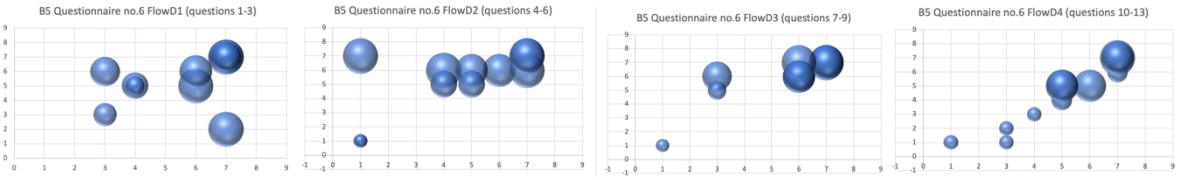
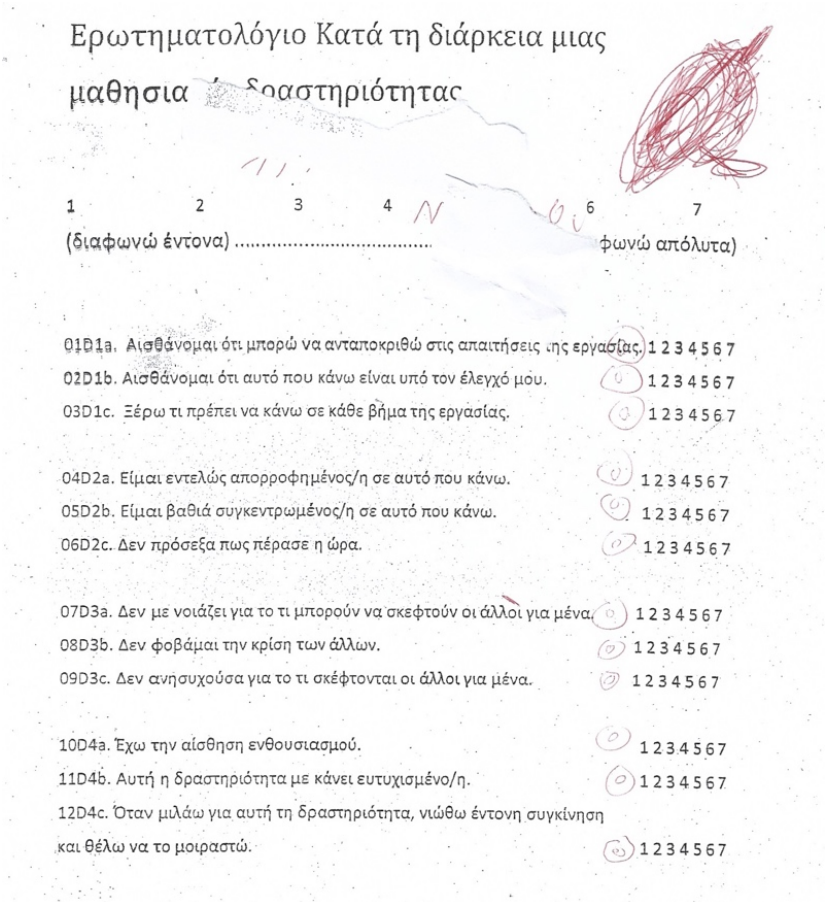



**Figure 6.48** - B5 showed the highest results in questions 7 (I didn't care about what others could think of me) and 8 (I don't fear the judgment of others) in Dimension 3.

**QUESTIONNAIRE 6 TEACHER'S NOTES**

The only extra information added to the questionnaires was again from the student (B15713.10F) from the Control group B1, who marked all answers with zero and, this time, with a red pen, drew a frustrated doodle (Figure 6.49).



Ερωτηματολόγιο Κατά τη διάρκεια μιας μαθησιακής δραστηριότητας

1 2 3 4 5 6 7

(διαφωνώ έντονα) ..... φωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7

02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7

03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7

06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7

08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7

09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7

11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7

12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 1 2 3 4 5 6 7

**Figure 6.49** – Questionnaire 6, student (B15713.10F), in order to make her dissatisfaction more obvious, added the digit zero in all answers, doodled on top of the page, ripped the questionnaire and wrote with a red pen (probably for more emphasis).

Regarding the high scoring in group B3, nothing in the teacher's notes caused the group average fluctuation, which was almost predictable up to this point. Looking at my records, I cannot justify even disciplinary warnings at the time (as I am also the managing deputy head for B3) that might have contributed to students being over-eager to adulate me. However, although there is nothing in the record, looking back, I cannot know if there was not any verbal warning from other colleagues or any other incident within the classroom that might have caused the change in the class's up-to-now predictable scoring.

What I have in my teacher's notes, however, is an incident that happened during one of the lessons in Byzantine music before filling out the questionnaire in class B5. This was a lesson before their two-phrase Byzantine composition. This incident happened during the second lesson of the Byzantine session while they were working on their worksheets in the classroom. Whilst the students were working quietly, the second in command, after the headmistress, came into the classroom and soundly berated the whole class regarding an event in which

they had demonstrated bad behaviour. The classroom climate completely changed dramatically, and some students started crying. When the deputy A' headmaster left the classroom, I tried to elevate and 'encourage' the students by telling them that I was going to draw anything they asked in their notebook for each person that finished the worksheet correctly. I informed them beforehand that they never encounter a worse sketch artist than me. To my astonishment, all the students were eager to finish to see whether or not my lack of talent was factual. When the student who finished first indeed confirmed to the whole classroom that my claim was accurate, the whole classroom started laughing and looking forward to the abominations of their drawing's requests (Figures 6.50-6.54). I mention this not as a result of the research but simply as an anecdotal coincidence that by using drawing (in an already VAMP-trained classroom), I have instantly changed the mindset and psychology of the classroom. In essence, the form of custom drawings as a reward and showing them my vulnerability might have contributed to the highest score on this questionnaire in questions in questions 7 (I didn't care about what others could think of me) and 8 (I don't fear the judgment of others).

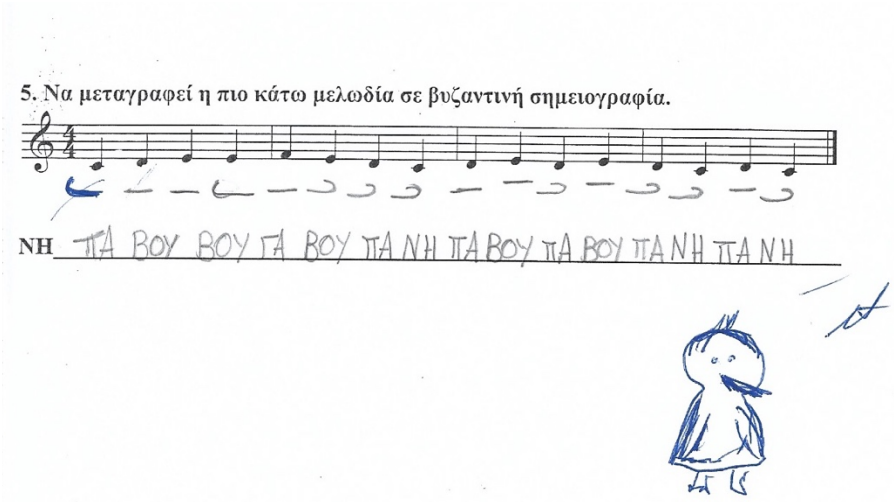



**Figure 6.50** – The student (B55596.17F), requested a drawing of 'a penguin' on her worksheet.

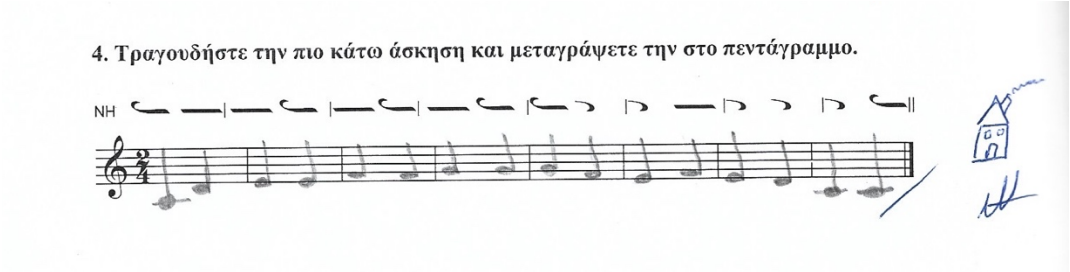


**Figure 6.51** – The student (B55532.16F) specifically requested a drawing of a 'beautiful house' on her worksheet.

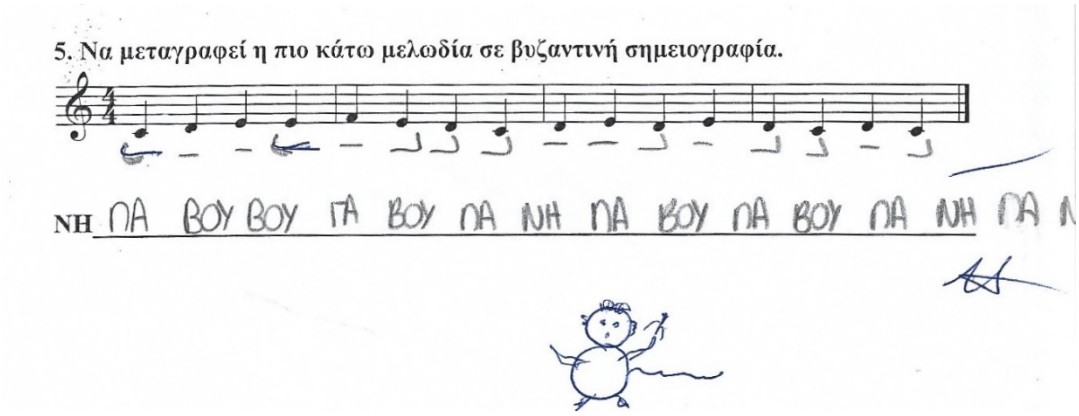



**Figure 6.52** – The student (B55520.18F) requested a drawing of a 'monkey eating a banana' on her worksheet.

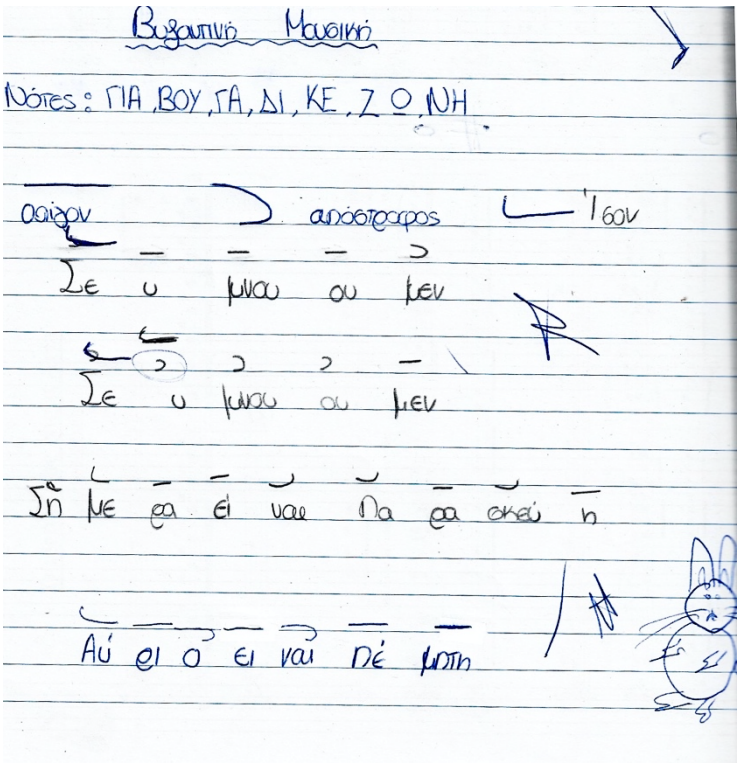



**Figure 6.53** – The same student (B55520.18F) also asked me if I could draw a 'rabbit' when she finished her composition the following lesson.

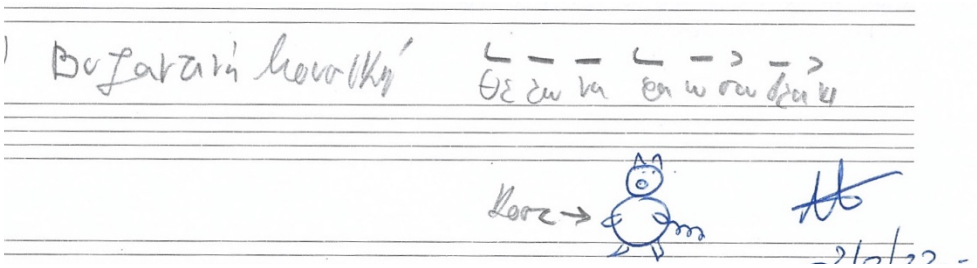


**Figure 6.54 –** The student (B55575.7F) did not finish her worksheet in time, so in the next lesson, she asked if I could also draw an image of a 'pig' in the exercise book as a 'reward' for finishing the composition.

**6.5.7 QUESTIONNAIRE 7** (3 lessons) Tarantella Dance – The end task is to perform the melody of the song Tarantella Napoletana in an accurate tempo with or without the help of the technology. In groups of 2-3, students can record themselves at a convenient tempo on Audacity (2000) application and then speed it up.

**Teaching process:**

Control Classes B1 and B3 – History about the dance, video, and discussion. Recording techniques and demonstration for each team's recording.

VAMP Classes B2, B4 and B5 - In addition to the above, students had to create a dance whilst listening to the playback of their recording of the song Tarantella Napoletana.

Although Questionnaire 6 fluctuated the results by having the Control group B3 marking the highest score, Questionnaire 7 showed a significant improvement in higher scoring in the VAMP-infused groups (Table 6.55).

| **Questionnaire 7** | B1 | **B2** | B3 | **B4** | **B5** |
|---|---|---|---|---|---|
| Question 1 | 4.9 | **6.1** | 5.4 | 5.1 | **6.1** |
| Question 2 | 4.8 | **6** | 5.4 | 4.8 | 5.3 |
| Question 3 | 4.8 | **6** | 5.4 | 5.2 | **6** |
| Question 4 | 3.8 | 5.3 | **5.4** | 4.3 | 4.6 |
| Question 5 | 4.1 | 5.6 | **5.8** | 4.3 | 4.9 |
| Question 6 | 4.1 | **5.8** | 5.5 | 4.5 | 4.7 |
| Question 7 | 4.3 | 5.5 | 5.5 | 4.2 | **6.3** |
| Question 8 | 4.1 | **5.6** | 5.2 | 4.5 | **6.1** |
| Question 9 | 4.3 | 5.5 | 5.5 | 4.3 | **6.3** |

| | | | | | |
|---|---|---|---|---|---|
| Question 10 | 3.7 | **5.5** | 5.2 | 4.7 | 4.2 |
| Question 11 | 3.8 | 5 | 5 | 4.7 | 4 |
| Question 12 | 1.8 | 4.6 | **4.8** | 4 | 3.6 |

**Table 6.55** - B3 showed higher in questions 4 (I am totally absorbed in what I am doing),5 (I am deeply concentrated on what I'm doing), and 12 (When I talk about this activity, I feel a strong emotion and I want to share it). Question 11 (This activity makes me happy) was neutral in all groups.

B1 QUESTIONNAIRE 7 (Control group)

D1 D2 D3 D4

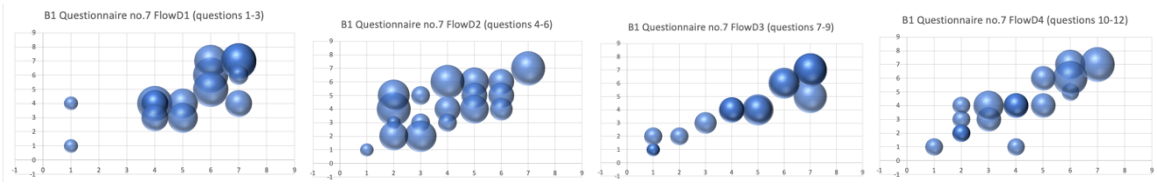



**Figure 6.56** - B1 showed a gradual decline from Dimension 1 to 4.

B2 QUESTIONNAIRE 7 (VAMP-infused group)

D1 D2 D3 D4

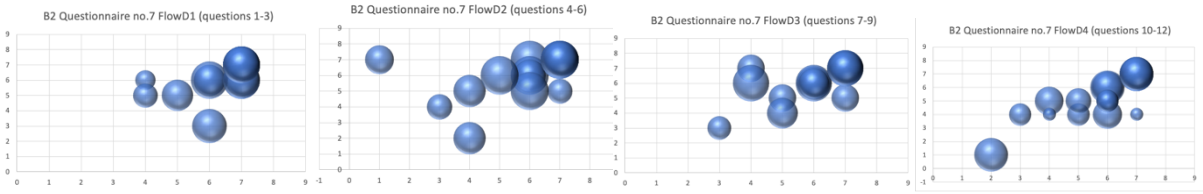



**Figure 6.57** - B2 showed the highest score of all the groups.

B3 QUESTIONNAIRE 7 (Control group)

D1 D2 D3 D4

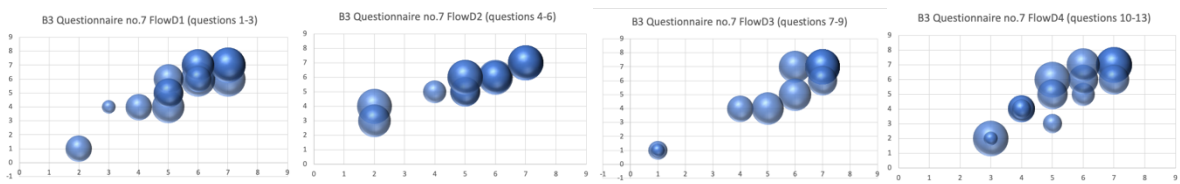



**Figure 6.58** - B3 showed overall in all dimensions lower scoring than in Questionnaire 6; however, it was higher than in Questionnaire 5.

B4 QUESTIONNAIRE 7 (VAMP-infused group)

D1 D2 D3 D4

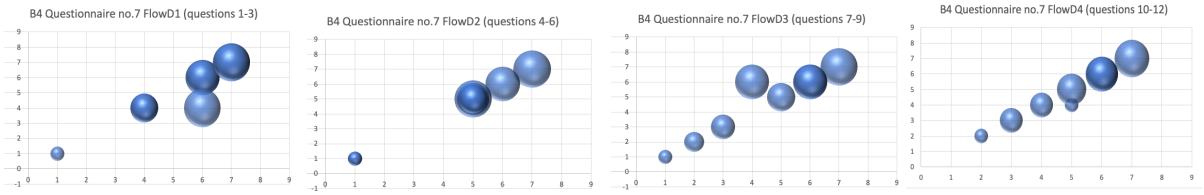



**Figure 6.59** - B4 shows an overall similar contribution in the results from Dimensions 1- 4 with signs of Flow.

B5 QUESTIONNAIRE 7 (VAMP-infused group)

D1 D2 D3 D4

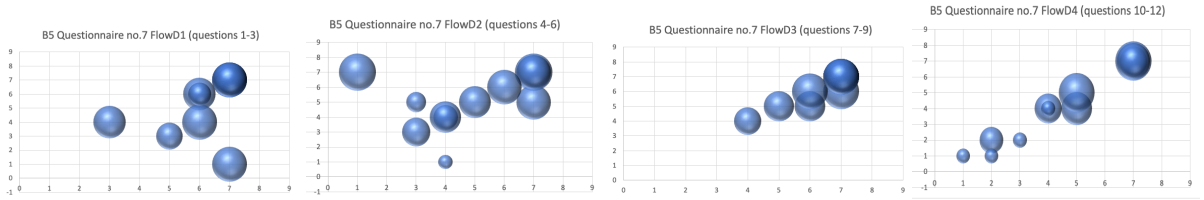


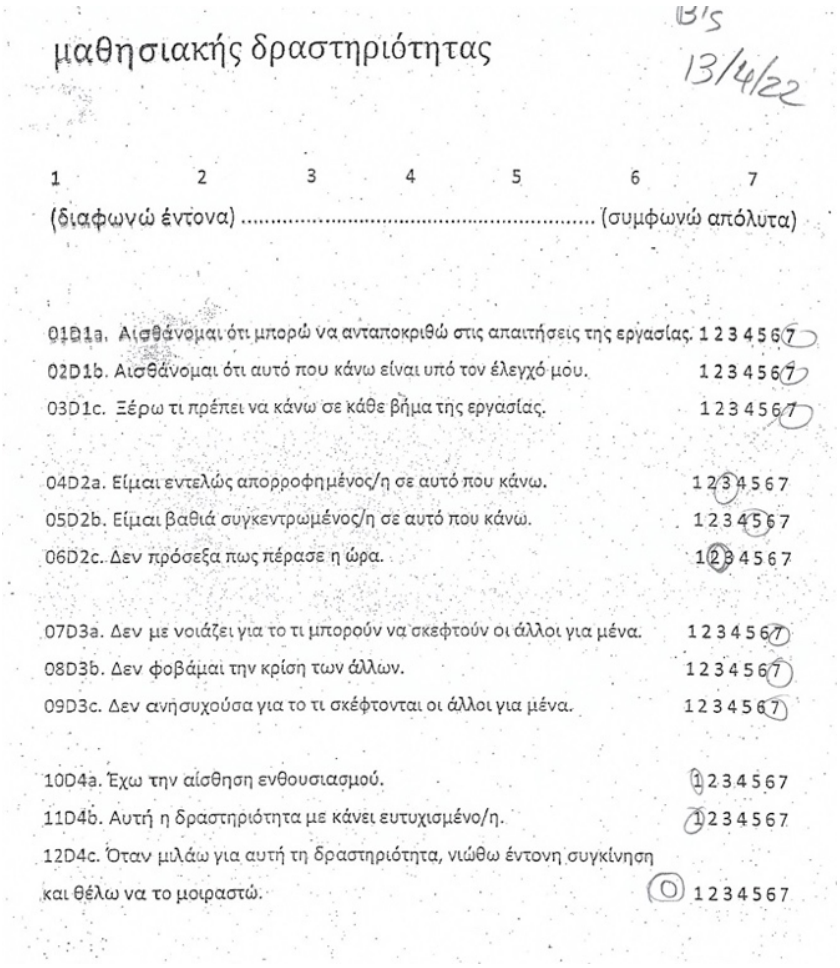

**Figure 6.60** - B5 shows the highest in all groups in Dimension 3 that were not maintained in Dimension 4.

## QUESTIONNAIRE 7 TEACHER'S NOTES

Despite being tasked with creating a personal dance to accompany their recording, the VAMP-infused groups outperformed the Control ones, as revealed by the results of this Questionnaire. As discussed in Chapter 5, I had expected the VAMP-infused groups to have difficulty demonstrating their work visually through a personalised dance, similar to Questionnaire 6. However, contrary to my expectations, the students easily completed the task, which is also reflected in the results.

The only student who marked extra 'information' on her questionnaire was the student (B55559.19F) in the B5 group. For the first time, the student marked with a zero the question 12 (When I talk about this activity, I feel a strong emotion, and I want to share it) (Figure 6.61).

However, she participated without me noticing any obvious event to report. The student soon after was hospitalised for mental issues, and this was probably reflected in the questionnaire by 'voicing' her declining psychological state.



μαθησιακής δραστηριότητας

B'5
13/4/22

1 2 3 4 5 6 7
(διαφωνώ έντονα) ..... (συμφωνώ απόλυτα)

01D1a. Αισθάνομαι ότι μπορώ να ανταποκριθώ στις απαιτήσεις της εργασίας. 1 2 3 4 5 6 7
02D1b. Αισθάνομαι ότι αυτό που κάνω είναι υπό τον έλεγχό μου. 1 2 3 4 5 6 7
03D1c. Ξέρω τι πρέπει να κάνω σε κάθε βήμα της εργασίας. 1 2 3 4 5 6 7

04D2a. Είμαι εντελώς απορροφημένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7
05D2b. Είμαι βαθιά συγκεντρωμένος/η σε αυτό που κάνω. 1 2 3 4 5 6 7
06D2c. Δεν πρόσεξα πως πέρασε η ώρα. 1 2 3 4 5 6 7

07D3a. Δεν με νοιάζει για το τι μπορούν να σκεφτούν οι άλλοι για μένα. 1 2 3 4 5 6 7
08D3b. Δεν φοβάμαι την κρίση των άλλων. 1 2 3 4 5 6 7
09D3c. Δεν ανησυχούσα για το τι σκέφτονται οι άλλοι για μένα. 1 2 3 4 5 6 7

10D4a. Έχω την αίσθηση ενθουσιασμού. 1 2 3 4 5 6 7
11D4b. Αυτή η δραστηριότητα με κάνει ευτυχισμένο/η. 1 2 3 4 5 6 7
12D4c. Όταν μιλάω για αυτή τη δραστηριότητα, νιώθω έντονη συγκίνηση και θέλω να το μοιραστώ. 0 1 2 3 4 5 6 7

**Figure 6.61** – Questionnaire 7, Student (B55559.19F), who never volunteered to write any extra information on her questionnaires, for the first time added the digit zero to show her emotional state at question 12.

## 6.6 "VOCAL" STUDENTS IN THE QUESTIONNAIRES

It is worth noting that the students mentioned in this chapter expressed their enthusiasm and frustration by providing additional information on their questionnaires through drawings,

doodles, comments, and extra numbering. Starting with student B15609.4M that added the zero in Questionnaire 2, one can see that throughout all the Questionnaires, all questions 12 were marked with the lower on the Likert scale, out of seven, the number one (Table 6.62).

| Student **B15609.4M** the last number/s after the point, is the student in the Excel. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Questionnaire | Q | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | | 7 | 6 | 7 | 1 | 5 | 2 | 4 | 5 | 4 | 3 | 3 | 1 |
| 2 | | 7 | 7 | 7 | 2 | 6 | 4 | 5 | 7 | 6 | 3 | 3 | 1(0) |
| 3 | | 7 | 7 | 7 | 7 | 5 | 4 | 4 | 4 | 4 | 3 | 2&3 | 1 |
| 4 | | 7 | 7 | 6 | 4 | 6 | 4 | 4 | 5 | 4 | 4 | 3 | 1 |
| 5 | | 7 | 7 | 7 | 2 | 6 | 6 | 4 | 4 | 4 | 5 | 2 | 1 |
| 6 | | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 1 |
| 7 | | 7 | 7 | 7 | 2 | 5 | 6 | 4 | 4 | 4 | 4 | 1 | 1 |

**Table 6.62** – The student B15609.4M from the Control group B1 shows consistency in question 12 throughout all questionnaires.

The student in the VAMP-infused group B2, B25546.15F, consistently provided similar answers across all questionnaires (Table 6.63).

| Student **B25546.15F** the last number/s after the point, is the student in the Excel | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Questionnaire | Q | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | - | 7 | 7 | 7 |
| 1 | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 |
| 2 | | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 |
| 3 | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 4 | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 5 | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 6 | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 7 | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | - | 7 | 7 | 7 |

**Table 6.63 -** The student B25546.15F showed throughout all Questionnaires consistent high scores.

The student B35548.9M who in Questionnaire 3, felt the need to repeat the statements in D3 (Figure 6.25), showed a decline in D3 (questions 7-9), scoring lower on the Likert scale in

Questionnaires 5 – 7. This indicates that he started valuing other people's opinions about him (Table 6.64).

| Student B35548.9M the last number/s after the point, is the student in the Excel. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Questionnaire | Q | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | | 3 | 1 | 2 | 2 | 3 | 5 | 2 | 2 | 2 | 1 | 1 | 1 |
| 2 | | 3 | 2 | 1 | 2 | 2 | 3 | 4 | 5 | 5 | 2 | 2 | 1 |
| 3 | | 5 | 5 | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 4 | 5 | 1&2 |
| 4 | | 7 | 6 | 5&6 | 6 | 6 | 6 | 7 | 7 | 7 | 5 | 5 | 2 |
| 5 | | 6 | 3 | 4 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 4 | 1 |
| 6 | | 5 | 5 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 7 | | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 2 |

**Table 6.64** - Student B35548.9M, although 'voiced' in writing by repeating the statements of D3 in Questionnaire 3 that he does not care how the others perceive him, by Questionnaire 7 the marks declined on the Likert scale.

The Student B15713.10F in Control group B1 showed after Questionnaire 3 a huge drop in the Likert scale. Especially in Questionnaire 2, her score of seven in Dimension 3, and in Questionnaire 4 became the scoring of 3 and then 0 and 1 (Table 6.65).

| Student **B15713.10F** the last number/s after the point, is the student in the Excel. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Questionnaire | Q | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | | - | - | - | - | - | - | - | - | - | - | - | - |
| 2 | | 3 | 4 | 4 | 3 | 4 | 4 | 7 | 7 | 7 | 3 | 3 | 1 |
| 3 | | 2 | 2 | 3 | 2 | 4 | 4 | 3 | 3 | 3 | 2 | 1 | 2 |
| 4 | | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) |
| 5 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) | 0(1) |
| 7 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

**Table 6.65** – The student B15713.10F showed the biggest drop in Dimension 3 from Questionnaire 3 onwards.

Looking at the overall data from student B55559.19F it is apparent that regarding her mental state in Dimension 4, all the results from Questionnaires 5 - 7 are low.

Questionnaire 1 scored an average 5.1, Questionnaire 2 an average 5.75, Questionnaire 3 an average 5.5, Questionnaire 4 an average 6, Questionnaire 5 an average 3.8, Questionnaire 6 an average 3.5 and Questionnaire 7 an average 4.5. Although the student was her lowest psychologically during the period of Questionnaire 7 and although she scored low on D4, her overall score is has shown an improvement from Questionnaire 5[30] onwards (Table 6.66)

| Student **B55559.19F** the last number/s after the point, is the student in the Excel. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Questionnaire | Q | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1 | | 4 | 7 | 5 | 5 | 5 | 5 | 7 | 7 | 6 | 6 | 4 | 1 |
| 2 | | 5 | 4 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 1 |
| 3 | | 7 | 7 | 7 | 6 | 6 | 5 | 7 | 7 | 7 | 3 | 3 | 1 |
| 4 | | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 2 | 1 |
| 5 | | 3 | 6 | 6 | 2 | 2 | 3 | 7 | 7 | 7 | 1 | 1 | 1 |
| 6 | | 3 | 6 | 5 | 1 | 1 | 1 | 7 | 7 | 7 | 1 | 1 | 1 |
| 7 | | 7 | 7 | 7 | 3 | 5 | 2 | 7 | 7 | 7 | 1 | 1 | 1(0) |

**Table 6.66** - Student B55559.19F showed a general decline in her mental health from Questionnaire 5 onwards. However, the average scoring on the Likert scale showed an improvement by Questionnaire 7.

## 6.7 QUESTIONNAIRES RESULTS' CONCLUSION

Based on the data from the questionnaires, it has been observed that in the VAMP-infused groups B2, B4, and B5, higher scores on FlowD1-D3 (Cognitive Absorption) are linked to higher scores on FlowD4, which indicates Flow. While Control groups B1 and B3 may have some high scores, the concentration of high scores for FlowD4 is not always consistent.

Overall, the data showed that in their majority, the VAMP-infused groups showed a more consistent concentration of high scores, especially in FlowD4. Questionnaire 6 was the only one in which a Control group scored higher (B3) than the VAMP-infused ones. The B2 high score phenomenon was unexplained as academically, they are not higher in other lessons than the average of all the other classes. It is noteworthy that the VAMP group B4 has scored

[30] The Questionnaire 5 occurred in early February 2022 when the student began displaying symptoms of depression that eventually led to her hospitalisation in April 2022.

lower than other groups. This can be attributed to its smaller sample size compared to other groups. Also, as discussed above, the high score in B3 in Questionnaire 6 was also unexplained as, from the teacher's notes, nothing happened during these lessons to foretell the results. It is my belief that participating in Questionnaire 6 challenged the VAMP-infused groups and helped them step out of their comfort zone. As a result, in Questionnaire 7, where they were required to create their own Tarantella dance, the students felt confident enough to present their dance with their own interpretation of Tarantella Napolitana. They scored higher than the Control groups who did not have a dance presentation.

All the raw data from Microsoft Excel for each questionnaire by group and the result analysis by the student in each questionnaire are in the Appendix section 6.2 and 6.4. The result analysis followed the grounded theory (as discussed in previous chapters) with the aim of creating a foundation from the ground up with the aid of literature and the combination of mindfulness achieved by Csikszentmihalyi's *Flow* and Kandinsky's *Transcendence.* The analysis of the data gathered from the EduFlow questionnaires administered to both Control groups and VAMP-infused groups, along with my teacher's notes, contributed to the conclusion that students can achieve a state of Flow when they are taught Music Visually while balancing Skill and Challenge.

The random selection of the VAMP-infused and Control groups showed that infusing a visual experience throughout the teaching process can create an optimal experience in students. The questionnaire results and the teacher's notes prove that VAMP as an educational tool can induce Flow and significantly benefit the students' experience. As Flow can facilitate psychological growth, these enjoyable experiences can further develop into a familiar state of mind across all aspects of adolescent life. At the same time, the teacher's involvement in the process of administrating Flow is an area for further research as VAMP as an educational tool is a teaching mindset and not an instruction manual.

## 6.8 REVISITING FLOW THEORY AND VAMP APPLICATION – A META ANALYSIS

Since the result analysis have proven that by students experience Flow in the VAMP-infused groups, it is important to revisit what according to Csikszentmihalyi are five essential features of the theory as the academic community widely acknowledges the usefulness of flow theory and its ongoing process of analysis and experimentation.

First, it is evident that people of all ages, genders, socio-economic backgrounds, and cultures recognise the flow experience as a real and positive state of consciousness. “Thus, we might conclude that flow is a panhuman, species-specific state of positive psychic functioning” (Csikszentmihalyi 1988:364). The panhuman application of Flow theory helps first as an educational model in the VAMP-infused lesson delivery. Therefore, utilising and practising Flow theory in education via VAMP can be an efficient method that enables students to apply their acquired skills to real-life scenarios with confidence.

Second, the Flow Questionnaires and Experience Sampling Method (ESM) both indicate that flow is typically a desirable state. When in flow, many aspects of one's experience reach their highest levels of positivity. “The relationship between flow and optimal experience is present both in the short and in the long term; those who are in flow most often tend to have more positive experiences in the rest of their lives” (Csikszentmihalyi 1988:364). Based on his data analysis, Csikszentmihalyi acknowledges that such optimal experiences once felt and understood by balancing skill and challenge, can be re-created incidentally as a way of reactive response in one's life. The curriculum infused with VAMP aims to create familiarity with *Flow* and optimal experience, allowing students to continue to involuntarily experience skill and challenge as a natural process outside of the classroom setting.

Third, studies indicate that people experience varying levels of flow in their daily lives. Some individuals possess an "autotelic personality" that enables them to find enjoyment in routine and even stressful situations, viewing them as opportunities for growth. “A good start has been made to determine what the traits of such persons are, and how patterns of child-rearing might facilitate their development” (Csikszentmihalyi 1988:364). The aim of a VAMP-infused curriculum is to encourage students to find *enjoyment in routine and even stressful situations, viewing them as opportunities for growth* that classroom teaching entails. The data results support such statements as the VAMP-infused groups showed a noticeable more growth and enjoyment throughout the seven questionnaires.

Fourth, findings suggest that the concept of "flow" is crucial to the evolution of culture. This principle applies both on a smaller scale, such as an individual's motivation to repeat enjoyable activities, as well as on a larger scale, such as the replication of successful events. For example, someone who enjoys programming computers will likely devote more time and effort to it, resulting in increased skill and complexity. Interestingly, apathy can also serve as a motivator, despite being an unpleasant experience. “This apparent paradox suggests new lines of conceptualization and research” (Csikszentmihalyi 1988:364-365). Embracing the

evolution of culture, as well as finding ways of delivering education to adolescents, is an integral part of this research.

And fifth, the ESM can be used to evaluate and critique the frequency of flow in everyday life. Concepts and methods have been developed to assess the optimal experience in various settings like jobs, schools, homes, and leisure. “A strong beginning has been made in answering such questions, and the answers are not always what we expected to hear” (Csikszentmihalyi 1988:365). The methodology and measuring scales regarding Flow have undergone and continue to have many adaptations and refinements. However, research on the EduFlow questionnaire is still in its infancy, as its initial French language version (Heutte 2016) was only translated into English by Mawas and Heutte in 2019 and in Greek in 2023 for this research. Further research on VAMP-infused curricula in music education and other school subjects would certainly continue to assess and evaluate Flow measuring scales such as EduFlow. The methods and techniques for measuring flow are constantly evolving. The research follows the EduFlow questionnaire method developed and tested by Heutte (2016) but acknowledges the need for further development to specify in-classroom activity and teacher-student interaction.

Summing up, Csikszentmihalyi’s assessment of the five characteristics are Flow as follows:

1. A real and panhuman positive state of consciousness
2. Taught positivity
3. A means to facilitate an ‘autotelic personality’
4. Evolution of culture
5. Ongoing research to measure and evaluate ‘optimal experience’

Applying the above characteristics and establishing a Flow experience in education can prove beneficial for personal growth and development, and it can also cultivate a positive outlook toward cultural progress. VAMP research found that incorporating visual stimuli to induce flow during classroom lessons is feasible, and the benefits outweigh the effort required to adjust the given curriculum.

The most recent study on Flow in education was conducted in 2022 in need of the promotion of digitisation in teacher education. This posed a challenge in choosing between face-to-face instruction and online learning environments. According to Alvarez et al. (2022), past studies have produced mixed results on personal preference and academic achievement, and there is a lack of experimental investigations on attention when comparing these two settings. Their study employed a counterbalanced design to compare student experience of flow in face-to-

face and online learning environments by using an EduFlow questionnaire. The results show that online learning environments have lower attention and engagement, implying that in-person instruction leads to better cognitive absorption, greater time transformation, and a stronger autotelic experience. While these findings contribute to the discussion on the best design for online education, further research is necessary to identify the specific mechanisms regarding attention and motivation that can impact flow in these two environments. Online education was introduced to the Cyprus educational system during the COVID-19 pandemic. It is believed to be a useful tool for future use, particularly for students who are unable to attend classes due to medical reasons. Therefore, the VAMP-infused method can be further researched for online education as part of creating Flow, similar to Alvarez et al. (2022) research.

Balancing skills and challenges in a controlled classroom environment where students feel safe and encouraged to step outside their comfort zone might be one solution to positively impact personality disorders and depression. Although the research was not targeted to students with psychological difficulties but rather the psychology of 'engagement' of activities and mindset that will keep the students focused and happy to learn seem to be beneficial to students with such personality difficulties. According to Csikszentmihalyi (1990:92-93), individuals with narcissistic traits seem to benefit from applications of Flow as their tendencies of being primarily focused on themselves, and when faced with external threats, they tend to crumble, something that the optimal experience of Flow could definitely benefit them (Csikszentmihalyi 1990:92-93). He continues that people with narcissistic tendencies become inwardly focused, trying to regain control of their thoughts, leaving little attention for dealing with external reality; patience and time are crucial in discovering and cultivating flow. By incorporating visual stimuli and learning to manage balance and skill, we can develop the discipline and mindset needed to adapt flow as a personal trait. However, if trained through education via a visually oriented curriculum, it might become second nature to allow themselves to be vulnerable as a way of growth.

Becoming an autotelic personality is, according to Csikszentmihalyi, a skill and a trait that is "most clearly revealed by people who seem to enjoy situations that ordinary persons would find unbearable" (1990:89). Is it possible that the acceptance of VAMP-infused groups to choreograph and dance in Questionnaire 7 is indicative of a shift in their personalities as in the previous Questionnaire 6, the mere thought of demonstrating their composition with movement up and down the classroom stairs caused horror? There may be a connection with Carl Jung's quote, "Where your fear is, there is your task." (Jung et al.1975:205-206).

## VAMP APPLICATION AND TEACHER'S INVOLVEMENT

VAMP application raised a concern regarding the state of the teacher and its influence in facilitating Flow. Csikszentmihalyi remembers the characteristics of his favourite teacher. "It was clear that he enjoyed every minute of his work, even though most of it was painful. He could not fake enthusiasm, conviction, or belief either for our sake or for his own, but this very submission to the rules of art generated enthusiasm, conviction, and belief on our parts" (2014b:179).

In the same writing, Csikszentmihalyi continues that the students he studied frequently used various ways to describe their most impactful teacher: ''This is not, as it turns out, because the teacher was funny or entertaining but simply because his or her involvement in the subject matter seemed, by normal standards, to be excessive—in fact, almost crazy. Yet it is such holy fools who keep the fabric of knowledge from unravelling between one generation and the next. If it weren't for them, who would believe that knowledge really mattered?" (Csikszentmihalyi 2014b:178).

As both the researcher and teacher in this study, I found that there has been limited exploration into the role of teacher involvement. I strived to maintain impartiality for both Control and VAMP-infused groups and show equal enthusiasm while teaching both, particularly the VAMP-infused groups. However, I believe there is a need for further research on the extent of teachers' involvement in facilitating Flow.

## CHAPTER 7 – DISCUSSION

### INTRODUCTION

According to Csikszentmihalyi (2014d:234), in order to engage students, it is important to capture their attention with something interesting. This is a fundamental skill that every teacher must develop, either naturally or through the use of materials. However, it can be challenging to achieve this because traditional curriculum materials are not designed to captivate students' interest (… ) “computers will start processing information once you plug them into the wall, but students don’t” (Csikszentmihalyi 2014d:234).

Wholeheartedly agreeing with Csikszentmihalyi, this research aimed to capture the interest of my tech-savvy adolescent students when teaching music in a classroom setting. My primary goal was to develop ideas and theories that could grab and maintain their attention to convey the provided curriculum efficiently. However, the research evolved into creating a mindful visual classroom experience. Using VAMP as a teaching tool helped to develop a disciplined teaching mindset that can be applied to other areas of teaching and curriculum development.

By combining the writings of Csikszentmihalyi (1990) regarding *Flow* and Kandinsky’s (1914) concept of *Transcendence* through holistic art, the research asked whether adolescents would enjoy learning music in a classroom setting. The Visually Augmented Music Pedagogy (VAMP) lessons were designed to balance skill and challenge, according to the theory of *Flow,* and by adopting various teaching disciplines such as watching, drawing, and kinesis to apply Kandinsky’s concept of *Transcendence.* VAMP, originally designed to maintain attention by delivering teaching visually in an enjoyable classroom setting, the amalgamation of two concepts has surpassed its initial objective.

### 7.1 FORMATION OF THE RESEARCH

The initial idea of gaining the attention of my students was simply to incorporate their mobile devices, as a lot of persuasion was needed when asked to put them in the recommended

holder that was placed on my desk. Thus, to keep students engaged and enhance my teaching, I incorporated their devices in the form of virtual personal keyboards along with my classroom equipment. The research however evolved further as the realisation from the piloted lessons, as well as conversations with my students, revealed that the dependency on their devices needed more investigation regarding adolescent attention and stress.

These concerns, paired with the growing number of students needing psychological support and home-schooling, were the beginning of the research. Initially, as a teacher, I attribute these alarming realities explained in the realm of global acceptability and openness about such issues.

An informative documentary called "Plugged In" (Grannon and Willett 2019) highlights the alarming psychological impact of social media and mobile device addiction on youth. The negative impact of heightened stress levels and excessive visual stimulation cannot be denied, as it leads to a significant decrease in attention during lessons. Adolescents can access a variety of entertainment applications on their mobile devices, including dating, gaming, and film-watching, as well as image distortion that could potentially affect their personalities. The need for acceptance could force them into creating a fake persona dependent on the likes and shares of their doctored filtered pictures with virtual friends. This, unfortunately, could potentially create teen-onset narcissistic tendencies of personalities that crave attention and acceptance (Grannon and Willett 2019). Having to deal with adolescents daily and bearing in mind the visual stimuli and their apparent dependence on mobile devices was the start of the research hypothesis on creating a safe, happy and visually interesting teaching environment to transmit knowledge.

Listing my concerns addressed from the start of the research led to attempts to find ways to tackle the lack of **attention and concentration** and increase the **wellbeing** of my students towards a more enjoyable and better quality classroom experience.

- Gaining and maintaining my students' **attention** was achieved by incorporating visual stimuli such as video projections, drawings, and movement into lessons.
- Creating and maintaining their **concentration** was achieved by balancing skill and challenge in all the classroom activities as for the students to either feel overwhelmed nor bored by the task at hand.
- **Wellbeing** was achieved based on both Kandinsky's concept of *Transcendence* by experiencing art holistically and by applying Csikszentmihalyi's the theory of *Flow* by balancing skill and challenge. This was confirmed by the results of the EduFlow

questionnaire, which showed that adopting VAMP as a teaching mindset can lead to an optimal learning experience.

Further findings from the application of VAMP have shown that when students are pushed outside their comfort zone by participating in visually stimulating learning activities that balance skill with a challenge, this approach not only helps to maintain their focus and concentration but also promotes psychological growth.

## 7.2 AIMS AND OBJECTIVES OF VISUALLY AUGMENTED MUSIC PEDAGOGY

Visually Augmented Music Pedagogy (VAMP) as a teaching mindset can create a mindful teaching environment. The combination of the two concepts of Kandinsky's *Transcendence* and Csikszentmihalyi's *Flow* was inspired whilst reading about ways of creating a mindful visual environment in a classroom setting. To test the theories, I utilised the aforementioned concepts to develop a curriculum for Visually Augmented Music Pedagogy (VAMP) in half of the classes I taught during the academic year 2021-2022. This was achieved by injecting, when possible, a visual aspect, such as a moving image, drawing, dancing and kinetics as a way of creating a visual experience in a classroom setting. The research was validated with the use of EduFlow questionnaires designed for educational purposes in order to measure possible *Flow* classroom experience. The research data showed that overall, the VAMP-infused (B2, B4 and B5) groups scored higher, showing more evidence of *Flow* when compared to the Control ones (B1 and B3).

### VAMP AS MINDFULNESS

"Enjoyment...is the experience that leads to growth. It is what we feel after physical exercise, when we master a skill, when playing music or an interesting game. It is what keeps creative persons struggling against heavy odds and what leads children to learning" (Csikszentmihalyi 2004:344).

Csikszentmihalyi continues that our methods of educating children are too divided and lack meaningful integration. This leads to either narrow specialisation or frustrating confusion. He believes that, regrettably, traditional schooling tends to view children as receptacles to be filled with information, disregarding their personal preferences. Consequently, the excitement of learning is often lost. However, when educators prioritise maintaining a state of Flow, students experience enjoyment in the learning process and feel motivated to persist and broaden their knowledge (2004:345). He continues that, surprisingly, the literature on education lacks discussion of an important aspect. While some references to students' satisfaction with schoolwork exist, without a theoretical basis for valuing enjoyment, these observations are often overlooked and provide little insight. However, integrating values and knowledge from the past is crucial for young people to become active members of society. If this integration process is not enjoyed, it will only scratch the surface of its potential impact (Csikszentmihalyi 2004:346).

Research has revealed that practising meditation and mindfulness can effectively alleviate stress and equip teenagers with valuable coping strategies for their journey towards adulthood and overcoming current global and personal issues (Sheinman and Russo-Netzer 2021, McKeering and Hwang 2019, Montarou 2013, Vago and Silbersweig 2012, Van Dam et al. 2018). However, it is also important to consider that self-conscious teenagers might not easily accept such practices in a group environment. This research focused on finding ways to 'inject' mindfulness by Teaching Music Visually. According to Sheinman and Russo-Netzer (2021), when new teaching methods and approaches are introduced, it can give rise to new challenges, and therefore, in order to effectively implement mindfulness practices in educational settings, it is important to carefully design and introduce new models while also conducting empirical assessments at the same time (2021:633).

"What is the relation between flow and happiness?" According to Csikszentmihalyi (1996:123) at first glance, it may seem that being in Flow and feeling happy are the same thing. However, the connection is more intricate. When we are in a state of Flow, we tend to focus solely on the task at hand and do not experience feelings of happiness. This is because happiness can be a distraction. For example, a poet in the midst of writing or a scientist working on complex equations may not feel happy without losing their concentration. Csikszentmihalyi believes that often we feel happy when we finish a task or achieve a goal, especially when we're fully immersed in the activity. This state of complete absorption is called "flow". However, we may also experience moments of distraction or lose our focus while in Flow (Csikszentmihalyi 1996:123). "In the long run, the more flow we experience in daily life, the more likely we are to feel happy overall. But this also depends on what activity provides flow." (…) "Some of these

experiences can be enjoyable, but these episodes of flow do not add up to a sense of satisfaction and happiness over time. Pleasure does not lead to creativity, but soon turns into addiction – the thrall of entropy" (Csikszentmihalyi 1996:124). The VAMP model is designed to ensure that students encounter *Flow* on a daily basis in the classroom, as recommended by Csikszentmihalyi (1996:123), resulting in a substantial increase in overall happiness.

This thesis extensively explores the significance of flow, creativity, and self-growth. The proposed curriculum, infused with VAMP, aims to create a mindful learning environment and equip adolescents with techniques to balance skill and challenge. This general mindset can be achieved by focusing on and managing tasks, starting with the classroom, addressing oneself, and facilitating growth. Based on my experience teaching VAMP-infused lessons, I discovered that stepping outside my comfort zone to display vulnerability in new tasks, along with the entire process of researching and delivering lessons left me feeling mindful, confident and in a state of F*low*. Similarly, VAMP-infused classes might sometimes have shown resistance in some visually inspired tasks. Still, ultimately, their questionnaire answers indicate improved scores and clear elements of *Flow* compared to the Control groups. I believe that VAMP, as a mindful educational practice, could contribute to new ways of developing ways of teaching and transmitting knowledge to adolescents in general. The VAMP-infused classes made mindfulness evident when students were so focused on the activity that they asked permission to stay and finish even when the bell rang for a break. For me, this was the most significant indication of mindfulness: "The practice of being aware of your body, mind, and feelings in the **present**[31] moment, thought to create a feeling of calm" (Cambridge University 2008).

**VAMP AS MOTIVATION**

"The extent to which emotional upsets can interfere with mental life is no news to teachers. Students who are anxious, angry, or depressed don't learn; people who are caught in these states do not take in information efficiently or deal with it well" Goleman (2009:78).

[31] The word *Present* was the unifying element of mindfulness in both the concept of *Transcendence* and *Flow.*

Dealing with adolescents' psychological stages, as mentioned above, is very common in everyday teaching scenarios. Trying to motivate anxious, angry and depressed students was my initial inspiration and the start of this research. The VAMP-infused classes showed that by adding extra visual stimuli, the students, in most cases, showed more motivation to participate in such activities. The EduFlow results from those same classes confirmed the experience I had recorded in the classroom through my teacher's notes.

According to the neuroscientist Eagleman (2018:1), "The interesting part about how the brain works is that it loves novelty. And so if you present something over and over – the same thing – to the brain it quickly starts showing a smaller response. This is called repetition suppression".

The activities organised in VAMP lessons brought about a feeling of novelty among the students who were used to the typical way of lesson delivery. When they were asked to do something unconventional, like dancing or drawing, their reactions were quite surprising, and at times, they showed some resistance as they were unsure of how others would perceive/judge them. However, Csikszentmihalyi (1990) discusses such issues of self-awareness in his Flow theory as well as the EduFlow questionnaire. Csikszentmihalyi believes that self-conscious students are more resistant allowing themselves to learn because of the fear of peer pressure. The designed curriculum of VAMP lessons aimed to push students outside their comfort zone, which researchers such as Russo-Netzer and Cohen (2022), Khandelwal et al. (2022) believe is the place of learning.

Kandinsky's holistic approach to experiencing art in order to reach *Transcendence* in the studies of Chan and Gan (2022) can be further supported as they believe that more research can offer more evidence-based insight into existing interventions and how art-based approaches can be effectively utilised for promoting mental health and well-being among adolescents in collectivistic cultures, particularly in Asian countries (2022:18).

Mawas and Heutte (2019:495) believe that in today's world, education is undergoing significant transformations in terms of concepts, theories, principles, and methods. Amongst the various factors that universities, institutions, and teachers need to focus on to enhance students' learning, motivation is one of the most crucial ones (Bhoje 2015). According to Palmer (2007), student motivation is a fundamental element that plays a vital role in ensuring the quality of education. Sometimes, teachers struggle to motivate their students because they may not have received proper training or may not fully understand the dynamics of the class. VAMP model could potentially expand outside the confines of the music curriculum into any

class subjects, by utilising means of creating a visual stimulus as a sense of novelty and motivation among adolescent students.

According to Mawas and Heutte (2019:495), understanding the class dynamic is a challenge teachers face in evaluating their students' motivation during instructional situations. It is imperative that teachers lead by example to inspire and encourage their students. Bakker (2005) believes that during a class, there are numerous interactive processes - both verbal and non-verbal - that occur between the teacher and students. The teacher's role in designing the lessons is crucial, and their mood can impact many factors that students experience during the class. This can lead to emotional contagion. Additionally, a teacher's "flow experience" includes not only work enjoyment, which can influence students, but also intrinsic work motivation and absorption. These factors may determine the quality of the lesson and, ultimately, the enjoyment of students (Bakker 2005:26-30). As mentioned above my role as a teacher to both groups I found myself more motivated when introducing VAMP to my classes. My intention to create new lessons and new classroom experiences was ‘transferred’ as an ‘emotional contagion’ to my VAMP students.

Wrigley and Emmerson's (2013:292) study delved into the psychological state of Flow during live music performances at an Australian tertiary music institution and found that Flow experience was not affected significantly by instrument type, year level, or gender. Most students in the sample felt that they were not skilled enough to meet the challenge of the performance and did not find it enjoyable or engaging. The research has implications for teaching and learning methods and highlights the need for more training in psychological skills in order to motivate and enhance the music performance experience. Teachers are expected to know their students' abilities and the curriculum, but more research is needed on the teacher's role in achieving Flow. VAMP research aims to look into future research on teacher/student motivation methods.

Vero and Puka's (2017) study “clarifies the complex construct of motivation as it relates to learning and offers **revamped** curriculum that applies motivation theory and research to practice” (2017:65 emphasis added). They also suggested (Vero and Puka, 2017) that a lack of educational motivation can negatively impact a student's learning process. Recognising that each student is unique, with individual psychological and socio-educational differences. Some students prefer traditional lectures, while others are more engaged in discussions or extracurricular activities. Additionally, some students may be highly motivated to learn but struggle in an educational environment that does not support their needs. Therefore, they urge educators “to create a **classroom environment** that motivates students to learn and

behave in ways that promote their long-term success" (Vero and Puka 2017:65, emphasis added). Their proposal suggests that teachers prioritise goals that focus on fostering students' motivation to learn. This can be achieved by identifying and manipulating specific aspects of the classroom organisation that relate to instructional planning. Strategies should be implemented to strengthen the motivation of all students (Vero and Puka 2017:66).

The VAMP-infused curriculum focuses on identifying and manipulating specific aspects of classroom organisation that relate to instructional planning. Clear examples are the lesson plans of the VAMP-infused lessons that demonstrated that the visual aspect during the teaching experience can be created without classroom distractions, extra equipment or added teaching time.

Goleman (2009:39) believes that emotional intelligence is an area that is overlooked in education, as having a high IQ does not guarantee success or happiness in life; our schools and culture tend to focus solely on academic abilities whilst omitting the importance of emotional intelligence in shaping our personal destiny. I share Goleman's belief that schools should shift away from solely prioritising academic abilities and instead focus on motivating students to learn important life skills and techniques that will benefit them in the future. One potential way to move in this direction is by introducing methods like VAMP modifications into music curriculums, which can inspire and positively impact student learning.

Goleman references Csikszentmihalyi to make his point stronger: "Indeed, in a study of two hundred artists eighteen years after they left art school, Csikszentmihalyi found that it was those who in their student days had savored the sheer joy of painting itself who had become serious painters. Those who had been motivated in art school by dreams of fame and wealth for the most part drifted away from art after graduating" (Goleman 2009:91).

Howard Gardner, a psychologist from Harvard University who developed the concept of multiple intelligences, believes that *Flow* and the optimistic mental states that go with it are integral to the most effective way of teaching children. This method stimulates them from within rather than through the use of intimidation or the promise of incentives.

"Flow is an internal state that signifies a kid is engaged in a task that's right. You have to find something you like and stick to it. It's when kids get bored in school that they fight and act up, and when they're overwhelmed by a challenge that they get anxious about their schoolwork. But you learn at your best when you have something you care about and you can get pleasure from being engaged in" Howard Gardner (in Goleman 2009:92).

Therefore, *Flow* and *Transcendence* in a VAMP-infused curriculum can engage and motivate students without feeling overwhelmed by participating in visually inspired activities and creating mindful and safe learning in a classroom environment.

## VAMP AS A MODEL FOR TAILORED CURRICULUM DESIGN

According to Csikszentmihalyi (2014a:140-141), certain subjects, such as math and science, are more likely to cause anxiety in school. Social sciences and humanities can also sometimes be boring. However, there are moments when school subjects can create a sense of flow; our goal as educators is to encourage productive activities that foster this state. He continues that people naturally seek out Flow. If they cannot find it in school, they may turn to other activities, such as playing video games or engaging in destructive behaviour. He continues that twenty-five centuries ago, Plato stated that the primary responsibility of educators is to instil in young people a love for virtuous pursuits. Unfortunately, this seems to have been forgotten, rather than understanding that we must encourage children to pursue what is right. Csikszentmihalyi believes that we attempt to force-feed them with fear and discipline. While they may comply under such circumstances, it is not a sustainable solution, and the need for self-expression will eventually lead to destructive behaviour (2014a:140-141).

Flow theory has been applied in education by various researchers, including Mayers (1978), Whalen (1997), Montarou (2014), Vasiliou et al. (2014), Culbertson et al. (2015), Heutte et al. (2016), Semple et al. (2017), Oliveira et al. (2018), and Rosas et al. (2022). However, as discussed in Chapter 4, the research regarding Flow theory in education is not as active and rapid as in other lucrative fields such as gaming and sports. Hence, additional studies on the relationship between Flow and education are necessary. By applying VAMP in the music curriculum, further research can adopt this model of curriculum design in other subjects. The VAMP model can be adapted for academic subjects and serve as a guide for creating a mindful environment to aid learning.

Sheinman and Russo-Netzer (2021:633) believe that improving education is a challenging task that requires collaboration, creativity, critical thinking, patience, and resilience. To make significant progress, we need to implement comprehensive and sustainable changes that support the transformation of teaching, curriculum, teacher preparation, and school climate

and culture. “It is time to gather this momentum, ignite transdisciplinary dialogue, and form a unified framework that can shape the lives and performance of children across the world” (Sheinman and Russo-Netzer 2021:633).

With the rapid advancements in technology and the impact of global events such as the pandemic, it is crucial to implement new strategies in preparing for the future. The current societal focus on instant gratification necessitates a re-evaluation of our teaching and engagement methods. As we navigate through this ever-changing global landscape, what will the future of education entail?

The global COVID-19 pandemic did not affect the research since the online lessons were conducted the previous year before the in-classroom research. However, the introduction of online learning has demonstrated that education systems can be quickly adapted when necessary. In Cyprus, teachers and students had to adapt from traditional face-to-face learning to online due to the restrictions. Despite the challenges, everyone adjusted to the new normality because, globally, online learning was seen as a better alternative to no learning at all when face-to-face teaching was not possible (Bicen et al. 2014, Atmacasoy and Aksu 2018, Chan 2019) (found in Alvarez et al. 2022:3).

According to Csikszentmihalyi and Larson (1984:259), the relationship between experiencing *Flow* and grades goes beyond the idea that high-performing students enjoy their classes more. It means that, regardless of a student's GPA, they are likely to perform better in the classes they find more enjoyable. Subjects such as maths and science seem to be less preferable than arts; therefore, educators should aim even more so in those subjects to focus on making learning enjoyable rather than simply transmitting information. This research demonstrates that existing curricula in different countries, such as Cyprus, can be transformed by adding visual elements without diverting from the original goal.

### 7.3 CONTRIBUTION TO KNOWLEDGE

The objective of the research was to enhance the music curriculum's visual appeal for teenagers by utilising technology and theory. By combining Kandinsky's approach to experiencing art holistically with Csikszentmihalyi's emphasis on immersing oneself in challenging tasks, a mindful classroom environment can be achieved. Kandinsky's approach

aims for *Transcendence* through art, while Csikszentmihalyi's approach encourages *Flow,* being in the present moment through challenging tasks.

This research adds value to education by incorporating VAMP into an existing music curriculum with minimal changes. These take the shape of optical aids, kinesthetic activities, dance elements, artistic expressions and visual interpretations integrated into classroom encounters. The study was conducted in a classroom setting and used visual stimuli to create a holistic Transcendental experience. This approach aimed to induce a state of Flow and provided a unique learning experience.

Creating an optimal experience in a classroom setting is not only a positive outcome for education but, according to Csikszentmihalyi, is the process by which young individuals transition into adulthood, not just in terms of behaviour but also in terms of mindset. However, this process is not automatic, as evidenced by a 300% increase in adolescent suicides, drug addiction, delinquency, and other forms of deviant behaviour over the past 30 years (Csikszentmihalyi 2014b:179). “These trends indicate that young persons in our society are refusing, in increasing numbers, to grow up into adulthood. Education fails when becoming an adult is no longer a desirable option” Csikszentmihalyi (2014b:179).

Harvard Psychologist Howard Gardner states that:

“Flow is an internal state that signifies a kid is engaged in a task that's right. You have to find something you like and stick to it. It's when kids get *bored* in school that they fight and act up, and when they're *overwhelmed* by a challenge that they get *anxious* about their schoolwork. But you learn at your best when you have something you care about and you can get pleasure from being engaged in" (in Goleman 2009:92 emphasis added).

The VAMP-infused teaching model aims to engage students who may be *bored, overwhelmed, or anxious,* allowing them to experience pleasure. The teacher's notes and results confirm that by implementing VAMP-infused lessons, students experience Flow. The lessons analysed in Chapter 5 demonstrated that with few additions without diverting from the curriculum but rather enriching it, VAMP can be a valuable model of educational practices in teaching music in the classroom setting. The changes proposed in this study did not require more teaching time. Instead, engaging students in new activities created a sense of pace and momentum. Despite the additions, the novelty factor kept the classes on schedule with the Control classes.

Moreover, the theory expands to an additional conclusion that pushing students out of their comfort zone by using VAMP-infused lessons shows improvement in accepting new challenges and enjoying them despite initial resistance. Trying new activities and getting the students 'exposed' within the classroom setting was not initially an easy task when dealing with adolescents. This served Csikszentmihalyi's dimensions for the creation of 'autotelic experience' and the 'Loss of self-consciousness'. Setting myself as an example by being part of these activities and introducing them as an example for mimesis (see Chapter Questionnaire 2 Zeibekiko dance) is my belief that helped the more inward shy and self-conscious students to push themselves and participate in experiences that otherwise would have been missed.

Furthermore, the versatile approach of the VAMP educational model, which incorporates visual aids, suggests that it can equip students with valuable life skills that they can apply unconsciously as they navigate their daily lives. This adaptable teaching mindset can easily be modified by introducing visual stimuli, making it an effective tool for imparting skills that can benefit students beyond the classroom. My opinion is that exposing students to the VAMP educational model twice a week, which balances skill and challenge through visual experiences, could help them handle daily situations where they may feel vulnerable or struggle with self-regulation.

## 7.4 FUTURE RESEARCH

Visually Augmented Music Pedagogy can become a blueprint for flow theory and visually captivating stimuli as an effective educational tool that can be adapted for all curriculums and special education.

Boughton (1989) draws to attention how a wide range of outside influences, such as economy, technology, ideology, art, and social and political changes, can change the way we view education. Boughton's reference to art applies equally to the impact of external factors on education as a whole, which is constantly evolving. The question we need to ask is whether education is equipping students with the tools they need to navigate the challenges of today's rapidly changing world, particularly in the wake of the COVID-19 pandemic. Should we be

rethinking our approach to education in order to prepare the next generation to adapt to new norms? In my opinion, we are not doing enough in this regard.

The education systems and curriculums tend to be slow and resistant to change. This may be due to the fear of unprepared staff, who may experience additional stress if changes are made. As a teacher, I can relate to this fear. However, the pandemic has taught us that we can adapt to change quickly. We were able to alter our lesson structures and designs overnight, learn new online platforms in order to engage with our students. We have proven to ourselves that change is indeed possible. Likewise, this research easily adapted the given curriculum into VAMP. As educators, we need to adapt and change quickly to current events, needs and concerns of young people. Furthermore, during adolescence, it is crucial to address prevalent issues such as stress from social media, boredom, lack of interest, and difficulties with learning (Grannon and Willett 2019). More research is required to tackle these concerns, as education is not just about acquiring knowledge but also about preparing future adults to navigate through the challenges of adulthood. It is hoped that VAMP's theoretical framework can initiate discussions in the educational and academic communities, leading to potential ideas for future research.

This research could also be expanded to include special education as an area of focus. Bingham et al. (2012:1) and Mason and Steedly (2006:42) observed that arts and special education are overlooked. Hanline et al. (2007:150) believe that visual arts can provide an avenue to assess developmental progression, which progresses similarly between children with typical development and those with disabilities.

In Cyprus, specialised schools offer morning and afternoon tuition, essential life skills and job opportunities for students with disabilities. For those who do not qualify for these schools, some general education schools offer specialist classes for students who struggle with the curriculum. I taught music to these classes for ten years, along with my non-specialist ones. I have not taught these classes in eight years, as I have been assigned to schools that do not offer them. Specialist classes typically have a maximum of ten students and cover basic math, Modern Greek, music, arts and crafts, and sports. As a tutor, I had a general draft of a proposed music curriculum, but each lesson was adjusted to fit the needs and capabilities of my students. Such practices of adjusting the curriculum to benefit specific needs have enriched my skills and ideas on transmitting knowledge and helped me improve my techniques throughout all my classes. Although I have not taught specialist classes recently, I am confident that preparing and implementing the VAMP model would effectively first capture students' attention and ultimately create *Flow*.

Furthermore, in my newly assigned position as a deputy head at the sole six-form specialist music school in Nicosia for the 2023-2024 academic year, I firmly believe that VAMP could be further tested and developed for future research. This new placement offers the chance to use the VAMP model in specialist music subjects, both in a classroom setting, in ensembles and during one-to-one instrument tuition. As part of my duties, I will be coordinating a team of music teachers who could potentially test and review the VAMP model and add their professional opinions and recommendations. The research can further explore the role of teacher/student interaction in creating optimal experiences, with involvement from more teachers in the study. Another area of exploration is the discussion of optimal experience as part of the teacher's satisfaction when teaching a VAMP-infused curriculum.

Moving away from the initial research and as a realisation, some of the writings of Kandinsky's contemporary psychologist Carl Jung (1875-1961) might be a connecting factor to both the *Transcendence* and *Flow* concepts of mindfulness that this research has explored. The connection of the theories framing VAMP with Carl Jung's writings could potentially evoke a discussion for further research on theories regarding mindfulness, art, and psychology.

In his writing, Jung mentions the concept of the 'transcendent function', which involves the merging of the conscious and unconscious mind. This is similar to Csikszentmihalyi's description of 'Flow'. Also, he uses the word 'Transcendent' as the state of the psychological function to describe when experiencing the union between conscious and unconscious.

"There is nothing mysterious or metaphysical about the term 'transcendent function'. It means a psychological function comparable in its way to a mathematical function of the same name, which is a function of real and imaginary numbers. The psychological 'transcendent function' arises from the union of conscious and unconscious contents" (Jung 1970:69).

It has never been reported, and there is no evidence that Kandinsky and Jung met or acknowledged each other. Nevertheless, they faced similar challenges with the limitations of a rational and logical approach to human experiences during an era when science, logical positivism, and industrialisation were seen as the key to a better quality of life - one that involved less physical labour and fewer "primitive" instinctual desires. Jung initially wanted to study the psyche as a scientist and observer, as evidenced in a well-known passage in his book Memories (Sherwood 2010:13).

In *Dreams, Reflections,* Jung wrote:

“When I was writing down these fantasies, I once asked myself, ‘What am I really doing? Certainly, this has nothing to do with science. But then what is it?’ Whereupon a voice within me said, ‘It is art’. I was astonished. It had never entered my head that what I was writing had any connection with art” (Jung 1961/1963:185 found in Sherwood 2010:14).

According to Sherwood's observations (2010:16), Jung identified as a psychiatrist who valued ‘science’ while Kandinsky strongly identified as an artist. Despite their different paths, both men overcame their fear of the unconscious and experienced a captivating discovery of their inner self in their own way.

Furthermore, Darnley-Smith (2018) observes Jung’s reference to arts as a treatment for emotional disturbance, psychoses and less disturbance and unhappiness “‘could be dealt with, not by clarifying it intellectually’ but also by giving the ‘mood’ an external, ‘visible shape’ through *art* **media** such as **painting** or **drawing,** as a way of giving fantasy free play” (Jung 1970:168 in Darnley-Smith 2018:2 emphasis added).

Jung believed that a way to address emotional disturbance is by giving it a visible shape instead of simply clarifying it intellectually can be another way of treatment. “If a patient has a talent for drawing or painting, they can use this skill to express their mood through a picture” (Jung 1970:82).

He continues that sometimes when content is unclear, it can be helpful to give it a more tangible form to make it easier to understand, such as by drawing, painting, or modelling. “Often the hands know how to solve a riddle with which the intellect has wrestled in vain” (Jung 1970:86).

Jung’s discovery of using art holistically as a way of expressing nonverbal emotions came when we observed when patients’ dreams pointed to a rich store of fantasy material. “This, according to individual taste and talent, could be done in any number of ways, **dramatic**, **dialectic**, **visual**, **acoustic**, or in the form of **dancing**, **painting**, **drawing**, or **modelling**” (Jung 1970:202, emphasis added to highlight the similarities with VAMP). This is an area of research that should be further explored and investigated in ways of adapting and expanding the VAMP model.

Since the start of this research, mainly due to the global pandemic, structures and ‘traditional’ education systems and curriculums have been forced to change, with home-schooling, online learning, mask-wearing, distance-keeping teaching, and everyone had to adjust literary

overnight to the new reality. Considering the global acceptability of overnight educational changes, new approaches in education should happen quickly as the technology and social-economical changes seem to happen quicker than curriculum/teaching adjustments. These new realities should be utilised and push educational systems and curriculums into forming a common ground of all educational systems since this is not a microcosmos of each country but rather a new way of living globally (at least in the West's more 'formulated' educational systems).

## EPILOGUE

In his work, Kandinsky shows us the importance of appreciating art holistically, while Csikszentmihalyi teaches us how to find joy in life by achieving a state of Flow. While writing my thesis, I realised both teachings ultimately encourage us to be our true authentic selves. During my research on these theories, I was pleasantly surprised to find out that I could attain a state of Flow through both teaching and writing about it.

Although this research was designed a year before the pandemic, this global event shifted and forced everyone to rapidly change their everyday living and routines. Education systems were also influenced as the day-to-day routines were changing daily. The subject of this research is not whether this current pandemic changed education and the way we transmit knowledge; nevertheless, it showed that when needed, educational systems can change, and they should be able to alter according to the given 'environment', the psychology of individual students, groups especially when routines and lives are disturbed, especially when dealing with the vulnerable age of adolescents.

"From this point of view, the main function of the teacher is not to teach science, math, or literature; it is to make being an adult seem like a worthwhile option. Of course, this modeling responsibility is not peculiar to teachers alone, but rests upon every adult member of our society. The task specific to teachers is to demonstrate, by their own example, that being an educated adult is a goal worth striving for" (Csikszentmihalyi 2014b:179).

As an educator, I took the task of setting an example for my students very seriously. Through my thesis, I learned the importance of showing our vulnerable side as teachers. I also discovered that having enthusiasm while teaching can be a motivating factor for students,

even if they initially lack it. We need to rethink the way we deliver education to adolescents today. When I began my research, I focused on how to engage my tech-savvy students. However, I soon discovered that there was much more to consider beyond this initial goal. Progressively the last decade, I have realised problems such as lack of concentration, anxiety, and depression were escalating among my students. According to Richard Grannon, (Grannon and Willett 2019), adolescents' behaviour has changed due to the increase in social media usage. Adolescents desire to be acknowledged, listened to, and engage in meaningful interactions. Education can play a crucial role in ensuring that adolescents are heard and seen in a safe and mindful classroom environment that encourages individuality. This can lead to happier students who are more eager to learn. Future research on Visually Augmented Music Pedagogy will focus on achieving this goal.

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