Effects of enhancing visuals in one-on-one violin lessons

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ROYAL CONSERVATOIRE DEH HAAG 2020

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A research about visual instructions in violin lessons with students aged 11-13

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Royal Conservatoire Den Haag, Master Specialisation in Music Education – June 2020

Abstract

Starting from my personal teaching experience, I have been studying the effect of visual instructions on my violin pupils.

With a detailed analysis of the interactions between students and teacher and the help of 36 observation sheets, I could finally see the effects of enhancing visuals on student's musical learning.

All conclusions were drawn after taking into account specific studies mentioned in the theoretical framework and with respect to the observations made by three external experts.

This research found further evidence of the link between visualization and critical thinking as well.

Preface

This work originates from my own past and present teaching experience. It will be clearer to understand why I have been working on "visual instructions" the moment I will share a little of my recent teaching history.

A few years after completing the bachelor in violin performance, I left Italy and went abroad to teach violin. I came from a different work environment as I used to play in orchestras and only occasionally had I been teaching. Only now, after gaining valuable experience, I can say that I have the same teaching and performing experience.

So, in 2015 I moved to Muscat, capital city of the wonderful "Sultanate of Oman". Here, in the Middle-East, I encountered many different cultures and ventured in countless teaching challenges. To give you an idea, in 2015, around 70% of the inhabitants in Muscat were immigrants and only 30% of the residents were locals. Most of the expats were Indians, Pakistani, Bangladeshi and from other neighboring countries. But Europeans, Americans and Asians were present in large quantities too. Dutch and British expats in particular were everywhere since they were working with the major oil companies. Teaching to this enormous variety of pupils, coming from all over the world, gave me the possibility to enter in contact with almost all cultures. Reaching every student, keeping the interaction productive, earned me precious experience.

I accumulated countless hours of experience with students of all ages, backgrounds and conditions. It has not always been easy for me, not only due to cultural differences but also because of language barriers with some of my students and their families. Teaching materials were also lacking: not only the "text books" but also proper musical instruments were hard to find. New students had to accept either to start learning the violin on the cheapest of Chinese violins or to drive all the way to Dubai in a difficult search for a better, low-entry, "German" instrument. Little by little, with the cooperation of my school management, we adjusted most of the mentioned issues. After a few weeks from my arrival in Oman, I ended up teaching around 40-45 different pupils every week. It was extremely demanding on both a mental and physical level. But that's not why I left the Middle-East. I wanted to keep up to date with my violin teaching and have the time to reflect on my teaching practices. I was particularly curious about the implications of my instructions on my pupils. That's why, in 2018, I started following the Master in Education at the Royal Conservatoire in Den Haag.

Speaking about this research, in Oman I noticed that both my teaching and communication skills greatly improved with the introduction of visual instructions. Visuals gave deeper meaning to my words easing the realization of musical features which were hard to explain only in words. Especially in the beginning, when I had difficulties in understanding all kinds of different accents and my pupils were genuinely confused by mine, visuals came handy to help me with otherwise difficult verbal interactions. From a communicative point of view, visuals were the bridge that allowed me to bypass linguistic barriers and added a new layer of clarity to my own instructions. Also, as the Muslim culture and school policy didn't allow any physical contact with the students, the application of visuals helped me in solving this issue.

As a learner, I positively experienced my teachers' visual instructions. Interesting enough, despite visuals have always been a common part of violin teaching, there's not much research about the application of this particular instruction form in settings such as conservatories or music schools. However, there are a few relatable works in other fields such as business and journalism. Later in the theoretical framework, I will share some of the related literature and take it as a starting point to analyze and contextualize the application of visual instructions during my violin classes.

Concluding this preface, I would like to share a personal thought. During the joint seminar in music education held at the Royal Conservatoire in 2019, Prof. Gary McPherson lectured about the importance of

starting a research by asking ourselves "why". So, I believe that performers enquire their practice by asking "why" they play in a certain way. Being a teacher, with this research, I want to find out why I teach violin the way I do and what it could imply on my student's learning.

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Introduction and research questions

Mixing "visuals" with "instructions" can often add confusion to what it could look like as a vast and mysterious field. During my first year at the Royal Conservatoire, while discussing about my research with peers and supervisors, I have been invited to write about this particular issue. In the beginning, I found it complicated to define the field of my study in the clearest way.

In a first stage of my research, I have been analyzing the meaning of different keywords and selected the most appropriate for my work:

- Visual approach;
- Visual aids;
- Visual elements;
- Visual music;
- Multisensory teaching;
- Synesthesia;

All the keywords listed above have been abandoned in favor of better terminology. My research couldn't be about the "visual approach" as this refers to a common airline pilots' procedure. In fact, a "visual approach" happens when pilots land airplanes proceeding to the runway by visual reference points on the ground. However, in at least one case I found studies about the "visualization approach" in general education, referring to teaching with visualization techniques (Shatri & Buza, 2017). Also, I have been thinking of the keywords "visual aids" but they would have implied that visuals "always help", as I realized after a conversation with Mathias Moors (teacher of Music Psychology in Leuven). "Visual elements" weren't specific enough for what I wanted to research. Speaking of "Visual music", it's the name of an artistic current which was about "synesthesia in art and music since 1900" (Broughter, Mattis, Strick & Wiseman, 2005). About "multisensory teaching", my research should have focused on the interaction and the role of all senses: smell, taste, hearing, touch, vestibular-kinesthetic. Speaking of "synesthesia", my focus would have not been on any instruction form but, instead, I would have been ending up researching about this medical condition which happens when more senses blend together.

My study, instead, is about "visual instructions". My focal point will be on the effects of enhancing instructions with visuals (photographs, schemes, charts, pictures, drawings, sketches…) during one-on-one violin classes.

To do so, I will answer the following research question:

"What is the effect of enhancing "*instructions*" with "*visuals*" on students' musical learning?"

The main goal of this research is to find out how visual instructions can be impactful on my students. As a secondary goal, I will try to understand if this form of instruction can be beneficial to develop students' logical thinking and analytical skills.

I will introduce what "visual instructions" are and more related literature in the theoretical framework that follows this introductory section.

Chapter 1: theoretical framework and related literature

Introduction

All theories and studies that will be mentioned in this part have been greatly influencing all phases of this research.

From business to science, visualization has a central role and, potentially, can cover all imaginable aspects. In this chapter, I will find common grounds between what can be observed in others disciplines and what I've already seen in music education.

In order to understand what is needed to enhance learning with visuals, starting from what visualization is and what is needed to make it successful, I will introduce two substantial topics which are "explorative learning" and "reflective feedback". How visuals can be applied to reach different goals will conclude the first part.

In the paragraph about visualization in music education, I will categorize works which include visuals by means of observations and comparisons between different violin methods and treaties. I will look at how generalist teachers include visualization in their music classes as well. Also, I will mention the results from a study about the relation between visualization and logical thinking as this aspect as well will be taken into account during my study. To conclude the theoretical framework, I will lay down the criteria for effective visualization, drawing the conclusions from the set of theories mentioned throughout this part.

To conclude, in the next chapter I will further discuss the mentioned topics to greater detail.

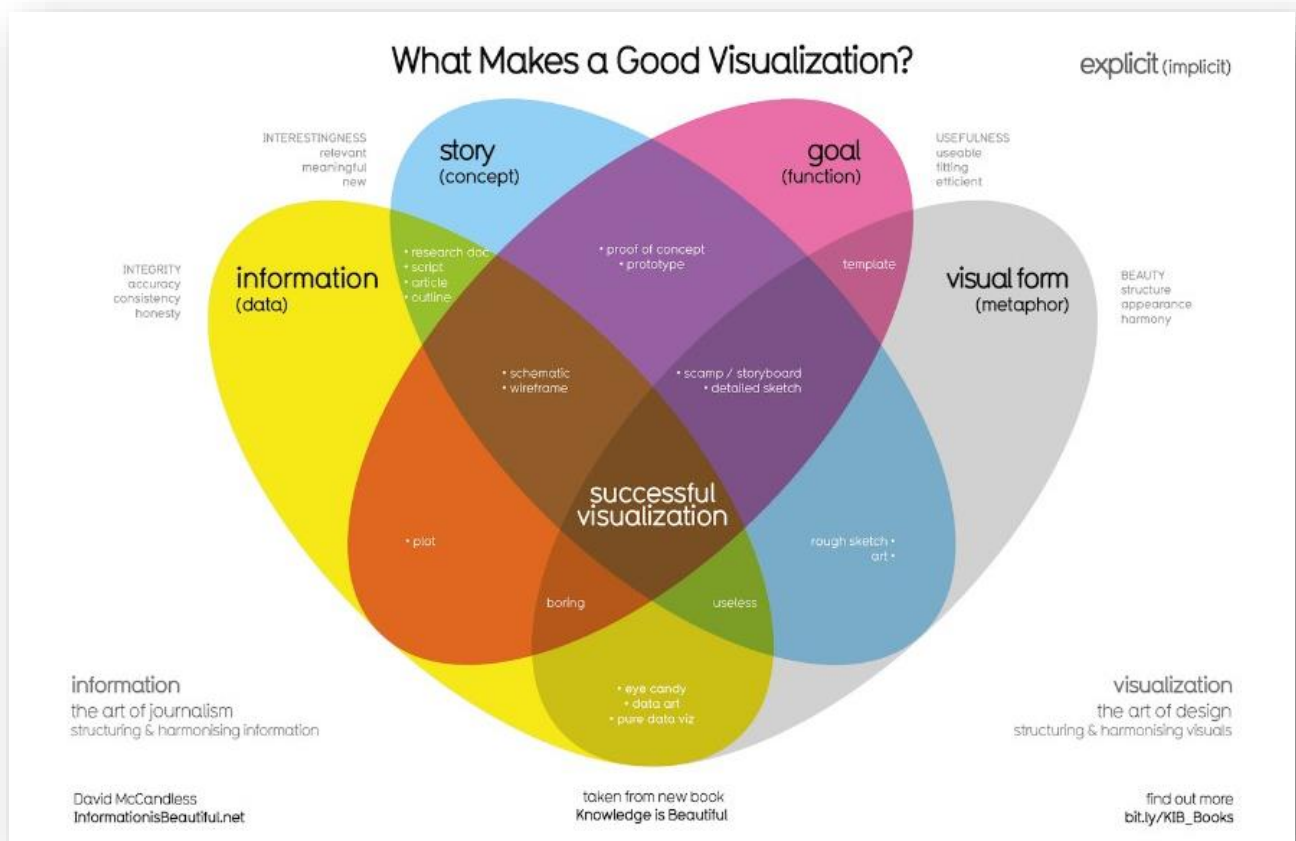## What are visual instructions?

A comprehensive picture can be seen with the help of the following description:

"Visual instructions may or may not include text. (…) Visual instructions serve to clarify a concept that is difficult to explain using only words. Graphics may be used to show how something looks, how something should look once the step has been completed, how something is done or constructed, show trends or relationships, add liveliness to the project or simply organize information. Graphics are useful since almost everyone (including children and others of a different language) can understand visual instructions. It also eliminates the cost of having to translate and print text instructions in multiple languages." (Lohman, 2020)

Practically speaking, visuals are great both in everyday life as well as in the arts. This particular form of instruction can be helpful in music education to support students achieving complicated tasks, apprehending new skills, understanding and interpreting ideas. Later in this chapter, you will see that according to studies, visuals can give more space for reflections, further development and also logical thinking.

Good visualization

Without being negative, in terms of "good" or "bad", there might be visuals that are more or less effective due to several circumstances. Looking at visualization in journalism, I found an interesting model that could be applied also to music education. This model shows what's needed for good visualizations. According to David McCandless (Figure 1), as seen in his "infographic book", good visualization is the result of the intersection between all aspects, namely: information (data), story (concept), goal (function) and visual form (metaphor/appearance) - (McCandless, 2014):

From the illustration above, we can deduct that visuals in music education can be successful if they embrace all aspects as well. In particular, good visuals…:

- …must provide information (data which are accurate and consistent) and…
- …have to express concepts (in particular stories which are new, interesting and relevant for the students) and…
- …have a clear goal (which is something useful for the learner) and…
- …must have a defined form (a beautiful structured appearance, so the way visuals look like);

The graph above shows that when we interrelate only two aspects, for example "visual form" and "story", we get just a "rough sketch" or some sort of "art", not a successful visualization. When we overlap three fields such as "visual form", "story" and "information", the outcoming visualization is "useless". Thus, good visualization, can't work without adding a clear "goal" to "visual form", "story" and "information".

What is needed to enhance learning with visualization?

The best example of a visual enhanced lesson, could probably be a lecture as the presentation is enhanced by visuals such as videos, PowerPoint slides and similar (Westwood, 2008).

To enhance learning with visualization, generally speaking, is not just about making verbal or written explanations more accessible to learners by means of visual supports but it's rather about creating new exploration opportunities, giving specific meaning to what is taught:

"The main intent of information visualization is to represent an abstract information space in a dynamic way, so as to facilitate human interaction for exploration and understanding" (Klerkx, Verbert & Duval, 2013, P. 5).

Based on the previous statement, exploring and giving more than one interpretation for the same visual instruction is beneficial to the learning process. Speaking about explorative learning, Rieber laid down all the conditions necessary to facilitate this:

a) "Learners can and should take control of their own learning,
b) knowledge is rich and multidimensional;
c) learners approach the learning task in very diverse ways;
d) it is possible for learning to feel natural and uncoaxed, that is, it does not have to be forced or contrived. These are idealistic pursuits, to say the least. These principles lead to some interesting educational outcomes or issues. For example, there is no "best approach" to teach something (at least for all but the most narrow of skill sets), nor is there a "best way" to learn" (Rieber, 1996, P. 587).

In my case, explorative learning was a natural consequence of the reflections based on the learning model by Gibbs (Figure 2). He stated:

"It is not sufficient simply to have an experience in order to learn. Without reflecting upon this experience, it may quickly be forgotten, or its learning potential lost. It is from the feelings and thoughts emerging from this reflection that generalisations or concepts can be generated and it is generalisations that allow new situations to be tackled effectively." (Gibbs, 1988, P.9).

FIGURE 2: REFLECTIVE FEEDBACK MODEL BY GIBBS

As you can notice, the model consists of six distinct parts. They contribute in analysing what could be the conditions for more learning. The six stages of this analysis are:

1. Description (of what just happened);
2. Feeling (what was the student feeling and thinking while doing the task);
3. Evaluation (what was felt positively or negatively);
4. Analysis (what the student learned from completing the activity);
5. Conclusions (what to improve);
6. Action plan (how to improve);

Speaking more about teaching and learning styles, as can be understood in the following part, all people learn in different ways. Previously, I mentioned that, according to Rieber, there is no best approach to teach nor is there a best way to learn. That's why, during a research discussion, I replied negatively to the assumption that I would have taught my lessons only with the help of visuals. During my violin lessons, all kinds of instructions can happen and overlap with each other: verbal, visual, practical, kinesthetic, just to name a few. "Effective teachers use multisensory modes of learning—aural, visual, tactile, and kinesthetic. A multisensory approach includes modeling, verbal instruction, media, movement, and tangible materials. In this way, the learning process fully involves the student. Although verbal instruction and modeling are vital to instruction, kinesthetic activities cannot be ignored. Instructional approaches such as Orff, Kodály, Carabo-Cone, Dalcroze, and Suzuki commonly incorporate multiple modes of learning" (McCarthy, Carlow, Gabriele, Arundel, Hall, Moore, Woody, 2007, P 8).

To give you a better picture, I would like to explain the power of multimodal learning with the help of a small paradox:

Three different, yet relatable, tools: a GPS navigator, a map and a compass. They are very different from one another even if they all have been invented with the same purpose of showing indications.

A GPS is a navigation system that guides users by mixing visual and vocal instructions. It can show the route anywhere in the world following a safe turn-by-turn approach. The biggest downside is that this tool needs electricity in order to work, which could be difficult to have in isolated locations such as deserts or others remote places. The closest alternative to a GPS is a map, an older invention. It's visual-based but details may vary due to the scale: on a full map of Italy, it might be impossible to find a remote village in the Alps. In this instance, having a map could be as useful as having none. The last tool, a compass, is great to find the north. It doesn't require any energy but in the proximity of magnetic fields, at the poles, it can become useless. However, this is a tool that might fit your needs if you have some sense of orientation and spirit of adventure.

So, if you were lost in an unknown location, having the possibility to access only one of the navigation tools mentioned above, which would you choose?

The paradox is that there's no universal solution to any problem despite the fact that there are many possible solutions, exactly as it is complicated to find the best route despite there are many valid navigation systems. The "best route" is a subjective matter which is always influenced by external conditions. Navigation tools can be compared to different forms and levels of instructions. We cannot say what's the best way or

the ultimate solution to reach an unknown location since different people will prefer different ways to reach their destination. Speaking from what I've learned while teaching, emotivity and expectations can always influence students in their own learning journey.

The paradox I shared above is mostly based on the theories of the learning groups by Fleming, where learners are divided into four different categories: visual, auditory, reading and kinesthetic. About visual learners, their ability to retain information is given by the fact that they tendentially think in pictures. Visual students can create mental images of what they have seen (Bates, 2019). Therefore, they prefer to follow visual forms of instructions.

Going further into understanding and interpreting pictures, visualization has great importance when it comes to data analysis. For instance, visuals simplify and interpret data originally difficult to comprehend, showing trends and helping the reader in drawing conclusions:

"Data visualization plays an important role in the information environment, communicating complex messages through simplified yet powerful representations of otherwise opaque data" (Ridley & Birchall, 2020, P. 127)

The "opaque data" mentioned by the previous study, refers to the issue that in business "…data visualization is deployed to achieve different aims and objectives and can be tailored to do so for specific audiences." (Ridley & Birchall, 2020, P. 127-128)

Given the previous statement, visuals, in education as well, can be employed in different ways. In music, teachers can make use of them in order to develop something very specific from the students. In the following categorization I will share some examples.

Visuals in music education

In violin education

- **"Visuals to develop specific features":** like the ones we can find at the beginning of most instrumental methods. They can represent how students need to look like when they hold instruments. These pictures often take into account the point of observation of the teachers. Sometimes, visuals can also show how to clean the instrument or how to change the strings, how to hold the bow and so on. They are largely found in all kind of methods from all era, their development overtime is mostly unnoticeable except that, nowadays, photographs are predominant rather than the old drawings. Some examples are shown below. On the left (Figure 3): from the "Violin School for Beginners" Op.6 part 1 (Ševčík, 1903, P. 7), on the right (Figure 4): from the "Suzuki Violin School: Violin Part, Vol. 1" (Suzuki, 1978, pictures 4-6)
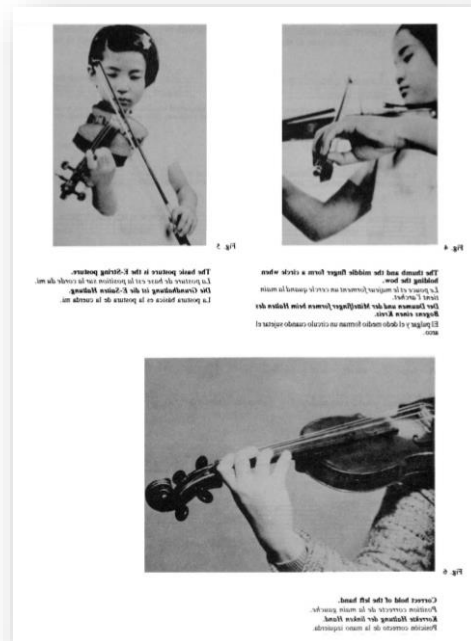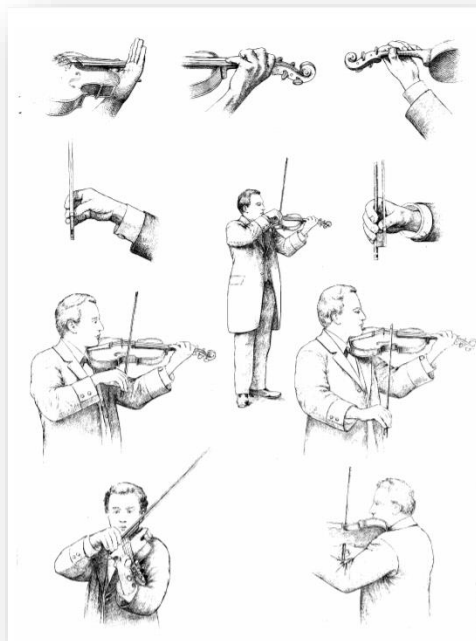
FIGURE 4 (RIGHT): "SUZUKI VIOLIN SCHOOL: VIOLIN PART, VOL. 1" (SUZUKI, 1978, PICTURES 4-6)

- **"Visuals to simplify or clarify technical concepts":** useful to make theories and explanations clearer. They are common in treaties or books where the authors are sharing concepts and theories about specific features. They are very common in technique books of all instruments. Visuals are useful in order to simplify lengthy dissertations, as you can see in the picture on the right (Capet, 1916, P. 18). In the picture on the left (Sevcik, 1901, P. 4) visuals simplify the written instructions by showing in which part of the bow the student needs to play:

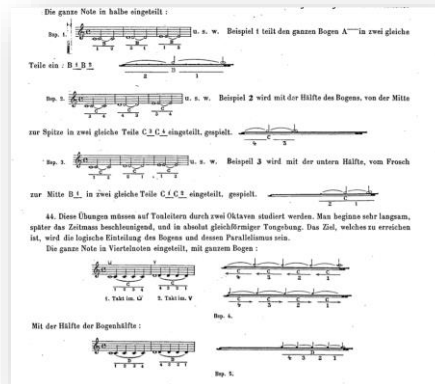FIGURE 5 (LEFT): SEVCIK "SCHOOL OF BOWING TECHNIQUE", 1901, OP.2, P. 4

FIGURE 6 (RIGHT): CAPET "LA TECHNIQUE SUPÉRIEURE DE L'ARCHET", 1916, P. 18

- **"Visuals to develop expressive features":** these pictures were taken from my own teaching. On the left (Figure 8), a gradient of grey colours paired to common musical dynamics to explore different nuances. On the right, from the diary of my pupil Evangelin, a "comparative vibrato chart" (Figure 7) to compare, explore and understand what is expected from this technique.

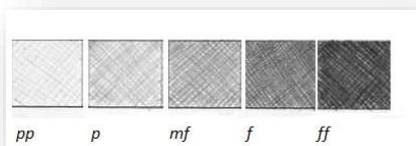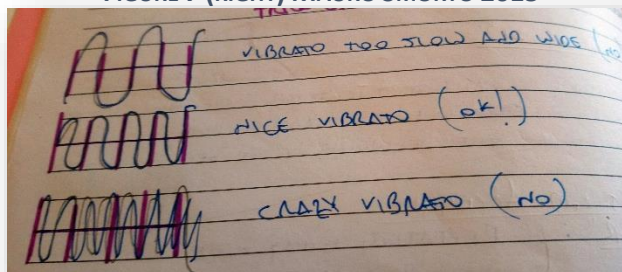FIGURE 7 (RIGHT) MAURO SMORTO 2015

FIGURE 8 (LEFT): MAURO SMORTO 2020

Visualization according to generalist music educators

In the Netherlands, the "Teacher Education for Primary Schools programme" (PABO) gives tools to help generalist educators to teach music rudiments in primary schools. From their course book, speaking of visualization, I noticed in particular:

"…notation is not only a creative but also a cognitive process: they (*the children*) compose music and think about the use of the different sound properties. (…) Children can listen much better to the melodies of a piece of music if they can also visualize it" (van der Lei, Haverkort, Noordam, 2013, P. 128).
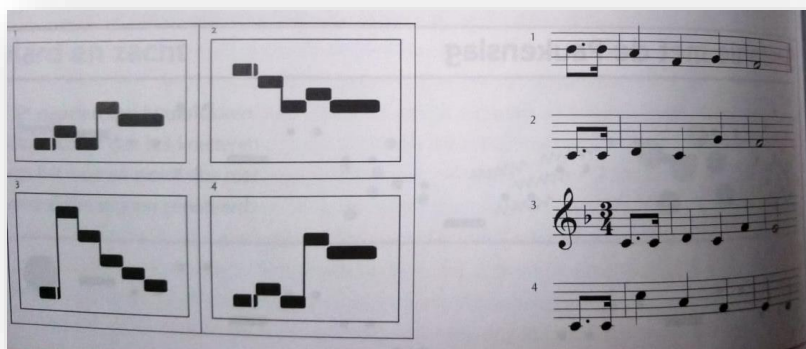

FIGURE 9: "MUZIEK MEESTER", 2013, P.128

This chapter from the book proceeds showing a list of many intuitive musical scores enriched by basic-functional notation. In the picture on the left, a game based on the "happy birthday" song. Kids are asked to connect the fragment heard (right side) with the correct visual representations on the left side (on purpose not in the correct order).

A similar approach to notation can be found in "See with your ears" (Don Kaplan, 1983, P. 49). Notice that here an extra layer of instruction is added with the descriptions in the left column (picture on the right).

While creating a set of new visual instructions to be integrated to a few old ones, my intervention has been greatly influenced by the works mentioned in the previous parts. In particular, adding captions to my own instructions, making them more intuitive, represented for me a great development.
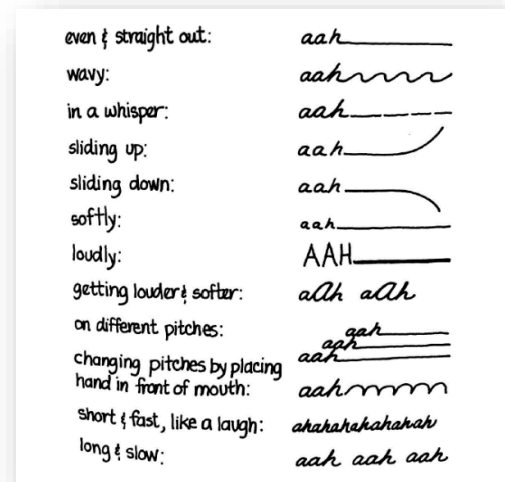
Is visualization useful for developing critical thinking of students?

According to two researchers "…visualization approach increase communication, increase critical thinking and provides analytical approach to various problems" (Shatri & Buza, 2017, P. 127).

In the mentioned study, it's stated that critical thinking is not an innate quality but, instead, a learned skill and "(…) determines the quality of understanding" (Shatri & Buza, 2017, P. 127). The issue with critical thinking is certainly very complex to address in my study but I will take it into consideration as a secondary aspect to be observed with the help of three external experts.

With the help of observation sheets, I will try to understand whether my visual instructions can be beneficial, or not, in the development of critical thinking with the students taking part to my intervention.

Conclusions

Drawing the conclusions from what has been shown before, good visualization must look appealing but needs also to be useful, specific and relevant for the students. It's possible to distinguish between effective or ineffective visuals. Different teaching and learning styles can suit all kind of learners but it's impossible to establish what's the best way or most effective teaching approach. Explorative learning and reflective feedback, probably, could be considered as the two cornerstones of learning thanks to their endless searching potential. However, visuals are not the only way to instruct a lesson, in fact effective teachers are those who use a wide combination of instructions.

As seen earlier, in the paragraph about visuals in music education, pictures can suit different objectives and can be beneficial for better understanding difficult concepts. In music, visuals can be shared for any purpose: from showing how to hold the instrument to playing different expressive musical features.

Captions can add an extra layer of clarity, although they are not always needed given the fact that visual instructions remain very intuitive. Analytical approach and critical thinking, triggered by visualization, can give personal meaning to the interpretation of pictures.

My explanation for the chosen methodology can now begin.

Chapter 2: overview of methodology

Premises

In the precedent part, I have introduced theories and studies which have influenced my work. In this methodology chapter, I will explain in detail how I organized my intervention upon reflecting on the previously mentioned studies.

I reorganized my original intervention as, still at the present time, the spread of a pandemic crisis is a threat to public health. Therefore, my whole work has been entirely carried out online with distance learning.

This unexpected turn in my research didn't affect too much my work since I was already teaching violin online and, thus, I had already some valuable experience. Also, it wasn't necessary to adapt my observation sheets as most of the parameters applied both to live and online lessons. Speaking more about online teaching, these lessons were not always a limitation for my intervention except in a few cases. I will explain more about this in a second moment.

In my initial plan, I organized four one-on-one violin lessons with two students from the "School for Young Talents" of the Royal Conservatoire in Den Haag and one more pupil from the "HKU Utrecht Conservatory".

But, given the pandemic emergency that grew exponentially in March 2020, I arranged three one-on-one web-lessons with two of my own students instead. Both participants were positive about distance learning, while I was happy to do my research involving my own pupils.

The two students who took part in the study are amateur violin players, 11 and 13 years old. Until now, they have been following violin classes as a hobby since they don't want to become professional musicians.

The software I have been using for the lessons is called "Zoom". Videocalls were productive, they enhanced interactivity during the lesson, lowering stress for me and my pupils. In fact, both me and the students had lessons from the comfort of ours homes. Online classes were easy to schedule as well. However, as I will mention later on in the research findings, it proved inadequate while working on specific musical features. While the internet connection was generally stable, the last bit of the infrastructure proved to be not up to the task, in this sense we are still at the same place of a few years back: "The core of distance learning must remain anchored in our established models of educational theories and substance, long entrenched in the classroom, while the infrastructure of delivery evolves in" (Sherbon & Kish, 2005, P. 38).

Research form

My study will unfold as an "action research". In addition, two comparable case studies will be observed during their learning experience.

To be clearer, it's an action research, rather than a "design research", as my focus is on my own teaching practice: "(…) action research is not aimed at generating design principles – it has a particular niche among professionals who want to use research to improve their own practices" (Plomp, 2013, P. 44). As visual

instructions are the focal point of my whole study, their effect on single case studies will be taken into account in my analysis.

Participants

Two young violin students will be taking part to my research. They have been following my lessons for some time already. Sai, for practical reasons I will refer to her as "case study 1", is an 11-years old girl from Andra Pradesh (India) who lives in Dubai (UAE). Anastasia, which I will call "case study 2", is a 13-years old girl from London (UK) who lives in Den Haag (NL). It's worth noticing that case study 1 had online lessons with me already from October 2018. Before having online lessons, we used to have one-on-one live lessons in Muscat (Oman) from 2017 till 2018. The other case study used to come to my studio in the city centre of Den Haag before the crisis started, she had some lesson with others before following my violin course. To be more specific, Anastasia has been my pupil only starting from October 2019.

Case study 1 follows the violin syllabus issued by the Trinity College in London, case study 2 follows the ABRSM syllabus.

My Indian pupil is energetic, curious, and very humble. She plays many different instruments and is passionate about her traditions and culture, Indian dancing and Carnatic music in particular. In the picture attached to this paragraph, you can see her some years ago in the Middle East with me.

On the other hand, the other case study has a completely different character. She plays the piano as well. My British pupil has also a great mix of Russian and Greek genes, however Anastasia is more introvert and extremely kind at hearth. I find that she has great analytical skills.

Three very generous and esteemed external observers have been taking part in this research with their written considerations. Symbolically, they represent past, present and future of my working and learning journey. David Pedreira Matamoros is an extraordinary colleague I have met in the Middle East, now living in Madrid. Mercè Medina Estelrich graduated the last year following this same course. She has been a great inspiration to me. The last observer is a young teacher, Samuele Riva, who is completing the first year of the same Master course working on a relatable research. They made me reflect on my own teaching thanks to their remarkable observations. To all of them goes my most profound appreciation for the incredible work done.

Time

My preparation work has been slightly prolonged by the current pandemic crisis. I originally wanted to start my intervention in March but I ended up scheduling it between the 11th and the 30th of April 2020.

A clearer structure of the schedule can be seen below:

Topic	Case study 1 - schedule	Case study 2 - schedule
Vibrato	11.4.2020	14.4.2020
Changes of position	18.4.2020	23.4.2020
Phrasing and expression	27.4.2020	30.4.2020

Not about "time" but more about "timing", it's nice to notice that all lessons have been planned around two different time zones: the one in The Hague (GMT+2) and the one in Dubai (GMT +4). That's because the students were taking part to the study from their family home in the Netherlands and the Emirates.

Speaking about the length of the lessons, you can find out more in the following table. Anyhow, it's worth knowing that I didn't have a prefixed "time limit" since I offered these lessons for free. In general, I aimed at 1-hour classes with case study 1 and 45 minutes with case study 2. This difference in time was due to the necessity of adapting my lessons to my students' different needs.

Topic	Case study 1 - length	Case study 2 - length
Vibrato	1 hour and 13 minutes	48 minutes
Changes of position	1 hour and 10 minutes	49 minutes
Phrasing and expression	1 hour and 2 minutes	48 minutes

Lessons in detail

Structure

During the planning phase, I came up with a common structure for all lessons in order to create a good routine and make my pupils even more comfortable during their explorations. You can see a representation of this in the chart below. I will get into more details in the successive part.
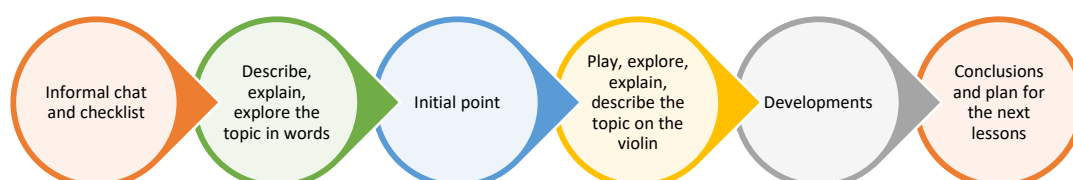

FIGURE 11: STRUCTURE FOR MY LESSONS

Every lesson has been introduced from an informal chat followed by a quick check list-time to make sure that all files for the lesson have been received. If this requirement was met, I moved on with the next step.

Therefore, I introduced the topic of the lesson and asked my pupils three small questions. This was a necessary step to understand "how" (in words), "how" (in practice) and "what" they knew already about the topic of the day. From this starting point we could agree on what to do next, laying down a personalized path.

What to play at the beginning of the lesson was left to the students and, if they were uncertain, I gave them multiple choices. In order to help my students analysing and explaining better their musical choices, as introduced in the theoretical framework, I have been leading reflective feedback sessions based on Gibbs' learning model. The resulting analysis gave great opportunities for further practical exploration and musical development.

Mostly, I have been following either one or the other learning model I thought of, as seen below:
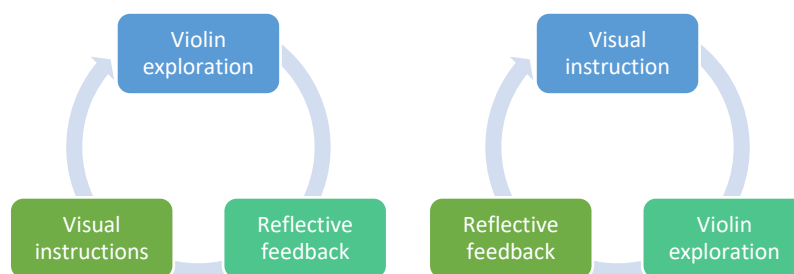
or

As you can notice, both models are the same, the only difference is the starting point. It's possible to start from a visual instruction or from some practical exploration but the feedback will always follow after anything played on the violin.

During the concluding part of the lesson, I often collected feedback from my students to learn more about my own teaching. Apart from evaluating my instructions with the words of my students, it was also a good moment to make the point of the situation and introduce the new topic for the next lesson.

Lesson content

All the lesson plans can be seen in full detail in the appendix (page 59-73). As I mentioned already, they follow a relatable structure consisting of:

- Starting point;
- Goals;
- Risks;
- Repertoire;
- Aspects taken into consideration;
- A list of visuals (which is the only part that was shared with the students);

As a "starting point", generally, I spoke about what are the complexities of the related lesson-topic and how they are traditionally handled in ordinary violin lessons. This section helped to remind me of what my pupils already knew and what they could have developed according to my own expertise.

Specific "goals" were listed in the second part of the lesson plan. They were both short and long-term. In the immediate, I wanted to develop skills required from the objectives of the lesson but keeping an eye also on long-term achievements such as working on relaxation or avoiding injuries.

From my own past teaching experience, I found it important to plan ahead and figure out what could be negative or avoidable during these lessons. For this reason, I added a "risk" section about common drawbacks I have been experiencing both as a learner and teacher. Therefore, I have been analysing what could be done in order to avoid negative experiences, keeping the learning environment safe and open to exploration.

The "repertoire" section of my lesson plans is where I explained in great detail what, how and why would be the scales, exercises and pieces for the lesson. In this instance, I have been employing existing and new repertoire. At the end of the lesson, I invited my students to play something else, not in the mentioned list, which they were practicing and could have been relatable to the topic of the lesson. It was my way to check if the transfer of knowledge happened. However, this could have been noticed also between pieces, exercises and scales played in the same occasion.

I established a list of specific aspects to be taken into consideration or not. In "aspects taken into consideration" I briefly summarized what my pictures could have been useful for. But, in order to avoid lengthy lessons, I had also to keep in mind what topics couldn't be explored due to time limits. By saying what was left out, I enhanced organization and gave more space for further development in future occasions.

The whole lesson plan was private and kept as a sort of teacher-guide. The only part shared with the students has been the last section. It was a list of different images categorized by objective or function. In "pictures for the lesson" I added all kinds of visuals: photographs, pictures of objects, morphological representations of hands or people, notations, charts, drawings, memes and some others. Only lesson-1 and 2 had a few shared pictures. Lesson-3 had completely different visuals.

Material

All visual instructions for the intervention were collected over my years of teaching experience. However, I also tried many new things as I shared new visuals and often very unusual ones. In the appendix you can find the repertoire with pieces, exercises and excerpts played during the lessons. Only the repertoire from the ABRSM and Trinity College will not be shown due to copyright limitations. The exercises I wrote for lesson 2 can be seen in the appendix (page 74-82).

Other than that, two small recordings were played: the first 7 seconds of Beethoven 5 as heard on a YouTube recording and my own alteration of it. I will add them to the appendix as well (page 87).

Data collection

Qualitative data have been collected in three different ways:

1. Video recordings of the lessons (almost 6 hours long) – Appendix (page 87);

2. Detailed lesson reports with, sometimes, my own commentary;
3. Two observation sheets were filled by three external observers after each lesson (36 observation sheets in total) – Appendix (page 83-87);

Video recordings were a great way to analyse and share my work with the external observers. I recorded all parts of every lesson including the introductory chat with the students. Online lessons felt as genuine as live lessons since my pupils were familiar with distance learning. I have been recording a little less than six hours of violin classes during six one-on-one sessions.
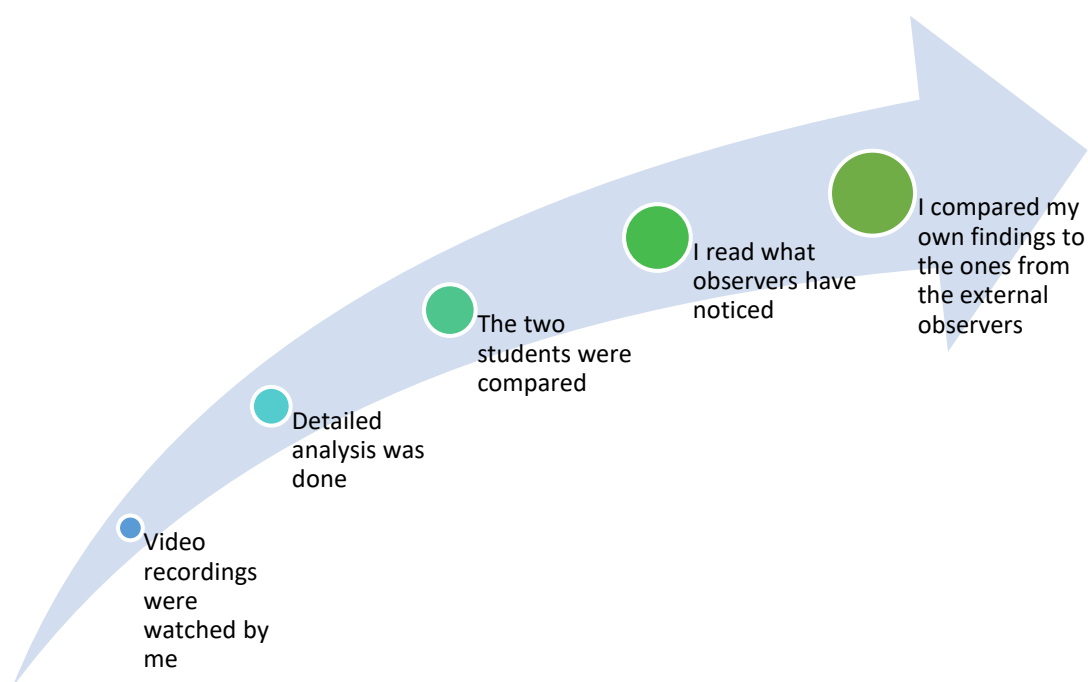
I filled a detailed report after each lesson and observed with particular meticulosity my interactions with the students to understand the effects on them. In the reports I didn't write only objectively but I also added my own thoughts and impressions I had at the moment.

Two different observation sheets were filled by three external observers after each lesson. They have been looking into my own teaching practice and the way the students have been reacting to my indications, including the visual instructions, of course. A total of 36 observation sheets have been filled in by the three experts.

All mentioned material can be found in the appendix as specified in precedence.

Data analysis

To draw conclusions, I analysed data according to the following method:

I compared my own findings to the ones from the external observers

I read what observers have noticed

The two students were compared

Detailed analysis was done

Video recordings were watched by me

Chapter 3: Intervention, analysis and results

Intervention

Explanation of the visuals for lesson 1

As you can notice from the lesson plans attached to the appendix (page 61-63), "group A" pictures are nine photographs of my left hand. These pictures demonstrate where the fingers hit the strings, showing multiple alternative contact-point. They were applied to develop left-hand flexibility. This is a particularly positive aspect since "vibrato" is the effect generated by rapid, slight change in the pitch which is a task of the left-hand.

In "group B", pictures of a feather, a weight scale and a tense violin player were shown. Here, visualization had the goal to trigger experimentation by means of different left-fingers pressure level. As I mentioned before, vibrato requires left-hand mobility therefore gaining lightness and flexibility with the fingers of the same hand, it's generally a good idea.

"Group C" pictures represented how my left-hand thumb looks like when I play. With a sort of morphological representation, a line evidenced how curved or straight it can look like. The focus here was on letting the students observe and reflect on what was happening with their left hand. In fact, usually, during a first phase of learning, it happens to be particularly tense while trying to make some vibrato. That's why observing the left-hand thumb is beneficial to the understand how to gain further relaxation.

In the "D group", I shared two images where different violin hold were demonstrated. In the first picture the violin was aiming down, in the second one the violin was aiming "in front" of the musician. As I mentioned in the caption, I wanted to avoid holding the instrument on the left hand. This would have been beneficial to prevent injuries but also gain more relaxation. The concept is simple: if the violin is held on the left hand, there's no room for vibrato as the whole left arm needs to hold the instrument in position and can't really move. It's possible to unleash the expressive possibilities of the left-hand only if the violin is properly rested on the shoulder.

"group E" pictures were about vibrato visualization. I drew how it could look like, with the help of sinewaves of different amplitude. These visuals were useful when it came to explorative learning and to reflect on the quality of the resulting sounds.

Explanation of the visuals for lesson 2

From A1 to A1.2, as seen in the appendix (page 67-69), I represented three common shifting techniques in my own way:

- A1: pressing on the string all the way from X to Y (glissato-like);
- A1.1: quickly jump from X to Y (portamento-like);
- A1.2: doing a combination of the previous two pictures, with the help of a "passing note";

My goal was to let students explore the pictures on the instrument and learn how to shift more confidently and comfortably.

Speaking about A2 up to A2.2, three photographs of my left hand were shared in order to visualize one more shifting technique. It could be more easily grasped by watching the pictures which are organized in a step-by-step sequence. The central focus is on the left-hand thumb which anticipates the shift.

Pictures A3 and A4 showed the "glissato" and "portamento" notation, which I added in that page together with all the others visuals. I wanted to verify if my pupils knew already about these signs and, if not, I could have seen how they would have played them on the violin by means of logical thinking or following their instinct.

Section B and C were kept the same as in lesson 1 but with two more photographs (C3 and C4). These two pictures shown how the left hand could be distanced from the fingerboard. Here, the goal was not just to trigger further exploration but mostly let the students reflect on their own practice.

Section D was identical to what seen during lesson-1.

Explanation of the visuals for lesson 3

For the first time since 2015, when I started using visuals for my lessons, I have been showing a meme as a form of instruction. You can have a look at it in A1, appendix (page 72-73). That picture contains two sentences which sound very differently because of the presence of a comma. With the help of this picture, I wanted to show an example for "phrasing" and also introduce the next issue.

The issue I referred in the previous paragraph, it was introduced with the help of two pictures (A2 and A2.1) which were showing three fishes and a perplexed man. Here, visuals were not instructions but rather illustrations for music excerpts played from my laptop. In particular, a fragment of the 5th symphony by Beethoven was played, first in the original form and later in a version which included a few "extra" rests. I wanted to understand if, for my students, the alteration of the piece resulted in a different visualization of it or if the picture remained the same despite different musical choices. It was also a funny way to show that phrasing is not about the alteration of a musical piece.

Picture B1 was the first proper visual instruction for this lesson. It came handy to share my own vision about phrasing as a combination of small and quick changes in dynamics following the way music goes. It was a small framework which was easy to explain with visualization.

Two charts indicating an upward and downward trend were shown in the C group. They were shared with the students just before picture B1. With comparisons, I asked my students to follow trends in music as they do in math. So, if the note heads were showing an upwards trend, I asked them to get louder or the opposite if a downward trend was noticed.

Picture D1 is another "comparative" visual instruction. In the sense that I paired a gradient of grey colours to a range of dynamics. The aim of this indication is to explore different nuances of musical dynamics, without explicitly saying, for example, how heavily or lightly the students needed to press on the bow or how fast or slow the bow strokes needed to be.

Analysis of lesson 1

Starting point

This first lesson was about the development of vibrato. Even though my pupils had already some vibrato rudiments, I felt happy to go through this exploration as they could have seen it as an expressive tool rather than a technical annoyance.

The fundamental idea behind this lesson was to develop "vibrato" through the multiple possibilities given by the explorative learning style. Most of the pictures handed over to the students showed many different alternatives in order to give different possibilities and let them find their favourite way to play.

As we will see in the following analysis, the application of visuals was beneficial to the students who could find their own way to enhance "vibrato". Verbal explanations have been a great part of the lesson as well as they have been guiding the students through the different explorations.

Difficult for me, as a teacher, was to apply the circle of reflective feedback (Gibbs, 1988). That's because, often, I found that my students were giving generic answers to very specific questions. Sometimes the reflective feedback session was interrupted as my pupils urged in trying new things. I might have guided this phase in more depths with the help of alternative questions. Anyways, it was very positive to ask as many "why-questions" as possible since this process generated much more practical development.

Detailed analysis of lesson 1

The first part of the lesson was influenced by a chat I had some times ago with Mathias Moors (teacher of Music Psychology in Leuven). According to him, with young students it's better to ask questions on the spot rather than asking them to fill in questionnaires. That's why this lesson started with three small questions. It wasn't originally planned but I thought it was a very genuine way to know from my pupils what they already knew about the topic of the lesson. In this way I could see what their starting point was. As this proved to be very interesting, I continued to ask questions in the next two lessons as well.

At the beginning of the lesson, after welcoming the pupils and tuning the instrument, I asked: "What is vibrato for you"?

- Case study 1, at minute 2.35: "A bending\shaking sound";
- Case study 2, at minute 2.10: "When a sound is not clear but sort of\like shaky";

My next question was "how do you do that?":

- Case study 1, at minute 2.58: "you wiggle your finger (?*)" *the tone of her voice felt unsecure.*
- Case study 2, at minute 2.34: "You move your finger (?*) back and forth (?*)" *the voice felt a little unsecure.*

I concluded this part asking "can you demonstrate it?", as I did ask this in different ways, I will quote myself below in the way I exactly said that:

- Case study 1: at the question (minute 3.00) "Can you demonstrate it (*by playing*) a 'veeery' long sound?" The student answered by playing a note characterized from a wide and tense

vibrato, probably resulting from the motion of the left wrist in combination with heavy left-hand fingers pressure.

- Case study 2: at the question (minute 2.49) "Would you like to demonstrate it (by playing) one note with vibrato? A long note". Answered with a long sound characterized by vertical left-hand fingers motion more relatable to a trill rather than a proper vibrato. However, it is common to find students performing trills when they are in their initial stage of learning about vibrato. Out of experience, it's not always a matter of confusing trills with vibrato but it's a lack of proficiency in performing that particular expressive skill. And that's also why this particular lesson took place.

From this point on, the two students proceeded following a personalized path. You can follow my analysis on the interaction I had with them in the following analysis of the lesson. All the parts relevant to this study about visualization are evidenced in **bold**. A few personal comments are *expressed in Italic.* I avoided refraining the word "minute". Instead, you can find in brackets the exact moment when facts have happened, for example (3.00) stands for "at minute 3.00".

Due to formatting issue, the analysis will follow in the page below.

All videos can be found in the appendix (page 87).

LESSON 1 - Vibrato			
CASE STUDY 1		**CASE STUDY 2**	
My interaction and comments	Results of the interaction	My interaction and comments	Results of the interaction
The student said (3.24) "it could be better", speaking of the demonstration she gave of her vibrato skills at that moment. So, I asked (3.40) "why and what? …what did you not like?" – *It sounded like the student hadn't a clear picture about "vibrato";*	(3.43) Answer of the student: "…if I had to explain to another person what vibrato was, I would have given the wrong definition for it"	The lesson started with a technical issue as the student didn't receive the pictures, I managed to send all the documents within the first two minutes of the lesson;	-
(4.00) I suggested to open the pictures sent so to find possible aspects to be developed - *I changed my lesson plan in this exact moment;* (4.45) I asked to look at picture E1. After troubles in getting organized, I requested to warm-up and play a scale from the book (E Major); (8.48) The pitch was acceptable but the bow usage was very limited. So, I asked to count four beats for every note (each sound played twice). I was singing it wrongly, so instead of following my indication the student copied the way I was singing; Reflective feedback:	- (8.30) The student warmed-up with a scale; (9.15) The case study played with stable pitch and longer bow strokes;	(3.25 till 7.26) "Let's start with a warm-up, a scale of your choice without vibrato" – *the internet connection wasn't very stable and many times I couldn't hear everything my pupil played;* (8.00) I asked to play the scale repeating each sound twice and vibrating only the second notes; **Reflective feedback:** (10.00 till 12.30) - *the reflective feedback session was partially based on the Gibbs model. As my student was jumping to conclusion quickly, she wanted to try different ways to play, I*	(3.55) Student played a "B minor harmonic scale" in different ways; (8.10) A vertical motion (more similar to a trill) is the result of the previous request - *To me, looks like her idea of vibrato is not fully clear;* (10.20) The case study expressed some difficulty in vibrating with the 4th finger. She felt positive about practicing vibrato but the left hand needed to be more relaxed in a way or another;

(10.00 till 12.26) "What happened?"

(10.30) "What were you thinking? How about your internal feeling?"

(11.00) "Anything remarkable (good or bad) about the scale you just played? Anything else?"

(11.49) "What did you learn out of this last execution of the scale?"

(12.20) "I see we are skipping to the conclusions, what would you improve now if you had to replay it?"

(12.26) (surprised) "You want to add vibrato to the scale? (why?)"

- end of the RF –

(12.50) "At the start of the lesson I asked to play long sounds with vibrato, right? Can you open picture E1?

(13.24) "How did you feel your vibrato at the beginning of the lesson was? Was it like the blue or the red soundwave?" - I am asking to compare the

(10.20) The student was concerned about sound quality,
(10.50) "I was concentrating on my fingers; I wasn't thinking of much"
(11.15) "Sound quality is the main stuff that worries me, other than that I could speed up maybe. I would like to add some vibrato"
(12.10) "Maybe I should press harder on my fingers to have a better sound quality"
(12.26) "I would definitely add vibrato now!"

(12.35) "It makes the sound more elegant-ish…";

"…I got (received) your pictures";

(13.14) "E1? Is it the soundwave picture?"

(13.30) "Red!"

felt like not to stop the pace of the lesson;

(13.00) I asked my pupil to open the pdf-file with the pictures, I wanted to know if any of them could have helped her with "relaxation" as it was her biggest concern so far;

(13.52) "It's light pressure in the left hand or in the right hand? Or in both?" – I was asking to share with me her personal vision about that picture (B1);

(14.30) "Let's try";

(16.08) "How was it?"

(16.35) "Can I ask you to do the opposite? If you watch picture B3 and apply a lot of pressure of the right and the left, what happens? If you have tension stop, of course"

(18.08) "What happened? How did you feel?"

(13.35) She replied that picture B1 could have been beneficial for her (a feather representing very light pressure);

(14.00) "Kind of both";

(15.00) The vibrato was more or less the same but less heavy;

(16.10) "It was easier with less pressure in both right and left hand"

(17.00) It sounded loud and often more similar to a vibrato than to a trill now, a very tense sound;

(18.13) "The sound was better but it was harder to do vibrato, speaking of the 4th finger" – she was positive about this

sound made with the help of a picture;			way to play and looked to be liking it;
(13.36) "Can I ask you to play a very wide (*gesticulating*) and 'BLUE' vibrato? The same note of before"	(13.50) Resulted in a sound somehow comparable to the one in the beginning, *maybe a little "cleaner"*, less movement from the wrist;	(18.48) "Can you see picture C1 and C2? Do you feel like your thumb is rounded and stiff or straight?"	(19.22) "I don't really know"
		(19.25) "Did you ever tried to watch at that finger in particular when you play with vibrato?" *(she answered "no" so I asked her to play one octave focusing on the thumb of the left hand);*	
(14.03) "Can you do now the 'RED' one?"	(14.30) Sounded less "bending", *less tense but probably the sound was a little whistled because of not enough finger pressure in the left hand;*		
(14.54) "Can we do a complicated thing? Can you do two times the red one and two times the blue?"	(15.10) Sounded a bit mixed up;	(21.00) "Did you notice what was the thumb doing?"	(21.05) "It was straight" – *by saying straight she automatically replied quoting the pictures we saw before (C2);*
(15.20) As I heard little difference in this last execution, I asked "how can we describe the red vibrato", "how was the blue?" – *her vision was really different from my own perception of this picture but, as I saw that her interpretation of this visuals could have been positively adopted in this lesson, I accepted this difference and worked on her vision;*	(15.40) "Red vibrato is mild and slow", "the blue vibrato is deep and long";	(22.18) I asked the student if it would have been possible to compare to picture E1 the two different vibratos generated so far;	(22.32) According to the case study, the blue line could represent the heavy pressured vibrato and the red line was the light pressured one;
		(23.15) Picture E2: "What do you see?" "Where do you think your vibrato is now?"	(23.30) "The last one is over the top" "My vibrato is between the first and the second example"
		(24.40 till 27.00) The lesson was instructed in a verbal way;	(23.38 till 27.00) the student tried new possible techniques;

(16.32) "Can we do a Red vibrato, slow and mild, on each sound of the scale?"	(17.50) Resulted in a scale which had the vibration I expected from my student, given the previous explanation;	(27.05) Pictures of group A were observed. "What do you see?"	(27.15) The student asked me if the picture was showing a "cut" on a finger. I clarified my own point of view on that picture "it's like the string left a mark on my finger" – however, it wasn't necessary. *I feel like the vision was a little different but both interpretations of this picture were functional;*
Reflective feedback: *(18.37 till 22.10) - the reflective feedback session was useful, even if not followed strictly the Gibbs model. It ended earlier. Instead of reflecting on "how to" make changes I decided to get back to the pictures and work on pictures D1 and D2 (about violin hold). I felt to do that as I was afraid that she could not vibrate on fingers 3 and 4 as she could have been holding the violin with the left hand, limiting her possibilities to execute this skill and raising the possibility of injuries;*	(18.40) The student said that **some notes were less "red" than what was supposed to be;** (21.13) She didn't like the fact that she could not play vibrato on her finger 4 (little finger) and sometimes on the 3rd finger. First and second fingers were better according to her; (21.51) the case study said that **there are more than a type of vibrato and now she was able to see** that is possible to have different nuances of vibrato - *categorization?* (22.50) She said that If she had to replay it, she would have added some vibrato on finger 3 and 4;	(29.50 till 33.08) "Can you do a little of A1 and later a little of A2? Let's start with one octave like in A1" – I asked to play A1/2/3 one after another; (34.50) "Can you craft your own vibrato now?" (36.40) "Which picture did you take into consideration for crafting your own vibrato?"	(29.30) "My own 'cut on the finger' is a little diagonal" – (29.40) I asked if it was like in A1 or A3. For her it was a mix of them; (33.10) Any of the techniques were functional to the student. She preferred a mix between A1 and A2 (34.25); (35.22) Student mixed many different techniques in comparison with the beginning of the lesson. (36.47) "I think kind of C, as I tried to put more pressure on my thumb. But not that much, it's a mix";
(24.00) "Do you recognize that you are doing like in D1 or D2?"	(24.10) "D1" – where the violin is aiming down;		

(24.10) (surprised) "Are you sure? Can you play only three notes from the scale?" – *I didn't have the same opinion of my student on this point, it is true that she was slightly aiming down with the violin but didn't look that bad to me;*

(24.54 till 25.42) a small exercise to fix the violin hold was performed;

(25.42) **Pictures C1 and C2 have been taken into consideration "Do you see your left-hand thumb open or closed? Do a guess"** – *the thumb is a vital part that can take place in vibrato. Even if her technique would have been perfect, I would have used this picture to raise awareness about how can this finger change the sounds we make;*

(27.10) "Play the scale and show your left thumb to the camera", "how do you feel it was? (Speaking about the thumb)";

(29.30) **B1/2/3 pictures: "Do you think the pressure on your left-hand thumb was like in B1/2/3?"**

(24.24) Three notes were played, I mentioned that the student is aiming a little down but not as bad as in the picture, she agreed;

(25.30) Violin hold and relaxation was improved;

(26.35) She demonstrated how usually she positions the thumb of the left hand;

(28.27) while changing fingers and trying to add vibrato the student noticed stress on her thumb;

(29.45) **I got mixed answers.** *Probably because of my enthusiastic reactions (?);*

(37.20 till 40.50) A little piece was played "A country walk" from the Trinity syllabus – *the idea was to see if any transfer happened;*

(41.00) The piece was played in the third position

(42.25) "Is there a reason why you vibrate?"

(42.55) I asked my pupil to play a little expressive piece she is actually studying but bringing with her all the new things she have learned that day (piece was "Chanson triste" by Tchaikovsky from the ABRSM repertoire);

(46.10) **I asked to have a gram of pressure in the right and very heavy pressure in the left** *(recalling pictures)*

Lesson ended after 48 minutes;

(42.30) *It was a very difficult and most likely avoidable question,* she answered: "I vibrate when it sounds right";

(44.00) The execution was not ideal; my student expressed some concern about what she expected. She expected to sound smoother.

(47.10) "It was better" – *she sounded happier. Not sure if any development really happened during this second re-play;*

(30.50) "Can you play with every single finger like shown in picture B1? So super-duper light, and as much vibrato as you can. It's just an experiment to see what happens";	(31.37) A somewhat more delicate and gently vibrating sound was resulting from this new request;
(32.02) *Here I instruct to play finger-by-finger; verbally instructed, some gesticulation;*	(33.55) Insecure sound but more flexibility in the third and fourth fingers;
(34.36) "How was it now?" – *probably I tried to start a reflective feedback session here but, instead of following the feedback session, I kept the conversation landing on a different spot, as you can see from the following question;*	(34.40) "1gr of pressure was not effective to produce a sound but it helped a lot to play finger by finger";
(35.27) "Did you try to do a Red or Blue vibrato?"	(35.39) "Maybe, somewhere in the middle. Deep, long but not very fast";
(36.00) I ask to "forge" a personalized way to execute vibrato.	(36.29) Resulted in a confident ascending scale, followed by a descending octave. – *the pitch was not perfect but it felt relevant to me that at this point of the lesson many different things have happened to the vibrato and went really far in comparison with the*

	beginning of the lesson.
(37.10) "How was it?"	(37.14) "I felt it was the one I wanted";
(37.48) Pictures (*photographs*) of the group A were applied in this part of the lesson; "Can I ask you what do you see in the pictures A1/1.1/1.2?"	(38.18) "The way you put your finger on the string, on different angles";
(39.49) "Can you do vibrato in this strange position?" - *as shown on A1/1.1/1.2*;	(40.27- 41.13) Student expressed some concern, "it's not the correct way of doing it";
(41.57) "Can you see pictures A2/2.1/2.2?"	(42.12) Student noticed a different contact point of the finger with the strings;
(42.55) "Is it possible to play the scale with every single finger hitting the string in that exact point? And, of course, keeping the vibrato. I leave up to you the feather" *(feather: the picture that previously was used to speak about the pressure on the left-hand fingers)*	(43.18) Student tried a different technique; (44.00) "...it's not the style I would choose to play" (45.45) "Doing vibrato is harder in this position"
(46.23) "Can we try a bit A3/3.1/3.2?"	(47.20) The student tried the new technique but with mixed results;

	(48.12) "For something it was ok, for other fingers it was really uncomfortable";		
(51.12) "If I ask you to craft your own vibrato, using all the stuff you have learned today (*mixing pictures*). Would you like to create your own mix?"	(52.13 till 53.33) "It was the way I would have played it and find the most comfortable" – resulted in a vibrato which was secure and evidently a mix of different techniques;		
(58.27) *Unexpectedly, when I was verbally explaining that there are many different possibilities with vibrato, the student stopped me to give a different interpretation of a picture previously used during the lesson;*	(58.51) "I can see that from your last picture" *(E2)*		
(59.44) A little piece was played "A country walk" from the Trinity syllabus – *the idea was to see if any transfer happened;*	(1,05.30) "I feel like the piece was really dull"		
(1,06.20) "Should we vibrate? Maybe not on every note but wherever you feel?"	(1,06.28) An execution of the piece was given with vibrato only on the long sounds;		
(1,09.55) "Can you apply to this piece the 'perfect'	(1,10.18) The piece is played but differently from		

idea of vibrato you built up on the scale of today?"	what she crafted before on the scale
(1,11.30) "Can you do like you did in the scale? Holding on the strings a finger per time?" – *I remember this version was her ideal one initially. Probably because of the sight reading she was focusing more on the reading part rather than the expression;* **Lesson ended after 1 hour and 13 minutes;**	(1,11.45) She managed to have better vibrato. She was happy with the result but concerned about her sight reading;

Similarities and differences between the two case studies (lesson 1)

During this lesson many elements have been noticed which were in common with both students, sometimes specific developments were noted in only one of them. In particular:

- o Differences in views happened between the teacher and the students as, often, pictures could have multiple meanings. Nonetheless, I perceived it to have a positive effect as pictures have a functional outcome;
- o Both students "crafted" their own vibrato by mixing up different visual instructions;
- o Case study 1 stated that "she could see different kinds of vibrato", at minute 21.51;
- o Case study 2 benefited from doing the opposite, capsizing the meaning she gave to the picture, at minute 18.08;
- o Both students learned new things but the transfer was hard to verify. It's possible to learn a skill but it was evident that it's a lot harder to apply it. This looked to be more challenging because of sight reading or limited mastery of the repertoire;
- o Students were able to compare their sounds to the pictures. To do that, they had to analyse their own sound and, through logical thinking, find a suitable equivalent on paper;
- o Sometimes, reflective feedback sessions weren't always strictly following the Gibbs model. This was because the students had difficulty in answering to each phase of the circle without skipping to the conclusions but also because of their urge of trying different set-ups. The fact that I didn't offer enough alternative questions for each phase was also a reason why the reflections were sometimes shorter. However, very often they included their own ideas for further exploration;

Analysis of lesson 2

Starting point

The focus of this lesson was on the development of shifts, also called changes of position. It's a technique which requires great coordination and good perception skills. This technical gesture allows the violinists to play a wider range of sounds, giving the possibility to expand the repertoire but enhancing expressiveness. Both of the students, at the time of the lesson, were able to play in different positions but I felt that they were lacking in confidence.

Also for this lesson I refrained from teaching this aspect in an ordinary way. Instead, I wrote my own shifting exercises (Appendix, page 74-82) and sketched new visuals which can be seen there as well (page 67-69). My own exercises were inspired from old repertoire but, in my compositions, all changes of position were marked with the "glissato" sign in order to make the shifts even more visible.

Visual instructions were predominant also during this lesson. Photographs, sketches, notation marks and others have been shared with the students.

In my intervention plan, I expressed my intention to work on the difference between "glissato" and "portato" but it turned out that we have worked more on understanding the difference between "shifts" and "extensions". In fact, in more occasions I had to interact with the students to focus on this specific issue. Sometimes, they were not performing a proper shift but rather an extension as they were pushing fingers rather than moving the whole hand in a new position.

In the following analysis you can find out more about this lesson.

Detailed analysis of lesson 2

Also during this lesson, I started with three questions. I asked them in a slightly different way every time, so I will report them below as I exactly said. *I added some comments in Italic.*

At the beginning of the lesson, after a small chat and tuning up:

- Case study 1, I asked: (2.42) "What do you know about shifting, what does it mean to shift position?". She replied: (2.49) "The key thing is that you make sure you don't do a meowing sound" (2.45) "It shouldn't be scratchy". According to her, it was more about bow motion rather than a left-hand/left-arm feature. In the sense that bowing while shifting can result in an unwanted "meowing" effect.
- Case study 2, I asked: (6.30) "Speaking about shifting/changing position, what does it mean to shift position?". The student replied: (6.43) "It's another way of playing the same note. When you play in another part of the violin"; - *she was mimicking a shift on the violin while speaking which was, to me, a clear demonstration of a shift;*

My next question was:

- Case study 1, I asked: (4.24) "How do you do that, so? How do you shift without 'meowing' or making any other effect?". She replied: (4.32) "To avoid the 'meowing', I lift up my left-

hand fingers or I don't bow while changing position. You must be sure you don't overdo the changes".

- Case study 2, I asked: (7.30) "How do you do that?". She said: (7.33) "You shift down towards the bridge (?)" *the tone of her voice was a little uncertain;*

My conclusive questions:

- Case study 1, I asked: (5.40) "Can I ask you to demonstrate one change of position going up?". – *(6.56) probably because of my gesture, as I was mimicking a change of position while also singing it, the pupil performed a shift copying both my technical gesture and voice.*
- Case study 2, I asked: (7.56) "Would you like to demonstrate a shift from a note to another?". She replied (8.00) "Like an octave?" – *she played a long glissato from a note to another, changing positions;*

At the end of the lesson, both students shared with me their own pictures about how they performed shifts during moments of this lesson. You can see them here, on the left (Figure 12) the (signed) picture from case study 1 (Sai) and on the right (Figure 13) from case study 2 (Anastasia):

FIGURE 12 (LEFT): VISUAL BY SAI (CASE STUDY 1)
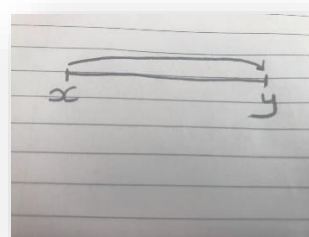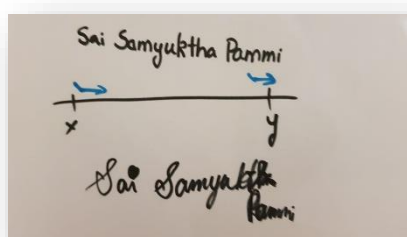
FIGURE 13 (RIGHT): VISUAL BY ANASTASIA (CASE STUDY 2)

From this point on, the two students proceeded following a personalized path. You can follow my analysis on the interaction I had with them in the following analysis of the lesson. All the parts relevant to this study about visualization are evidenced in **bold**. A few personal comments are *expressed in Italic.* I avoided refraining the word "minute". Instead, you can find in brackets the exact moment when facts have happened, for example (3.00) stands for "at minute 3.00".

Lesson 2 – Shifts and changes of position			
CASE STUDY 1		**CASE STUDY 2**	
My interaction and comments	**Results of the interaction**	**My interaction and comments**	**Results of the interaction**
Reflective feedback: *(8.00 till 10.58) - the reflective feedback session gave me more insights about what my pupil wants to achieve. It has been a great way to start the lesson and find alternative ways to play;*	*(8.43) "I felt I could adjust the pitch", "I didn't do a meowing sound", "I have to make sure I get the sound I want";*	(8.48) I asked the student to sight read one of the exercises; *(8.48 till 13.50) The lesson was instructed verbally; space was given to sight read the exercise;*	(8.50) Sight reading of "Exercise 2"; -
(11.00 till 14.28) – the lesson was verbally instructed. It was effective, developments were very noticeable. It was my way to prepare the work that followed with the pictures;	(14.28) The student demonstrated how she shifted up and down in position without separating the sounds;	**Reflective feedback:** *(13.50 till 16.30) - the reflective feedback session was partially focused on the questions from the "Gibbs" model. It was anyways a good way to analyse different moments of the previous execution;*	(14.00) The student analysed different aspects. Focus was placed on the sound generated. She wanted to improve the motion of the 4th finger; it was more related to pitch than to the shift itself;
(15.27) "Let's open the pictures I sent, check if any of the picture could maybe help you"	**(15.32) "Which one?"**	(16.30) More "Exercise 2" was played but starting upbow;	(16.45) She played again; - *she looked a bit tired of doing this exercise again, resulted in an unfocused execution. The exercise wasn't perfect but I decided to continue;*
(15.35) "Can you watch all of them and say if you find any picture that might help you in this occasion? From any series of picture?" *– followed some time to see all of the pictures. As I felt the pupil needed more specific questions I followed as I reported below;*	*Nothing resulted from this interaction, the pupil looked a little puzzled;*	**(17.20) "About picture A3, you told me it's a slide. How did you guess that? Was it straight forward to do a slide for you?"**	**(18.10) "Yes, I guessed it. But what about A4, it looks like a straight line?"**

(17.17) "You told me you felt pain in the left hand now";	(17.21) "Yes I pressed too much on my pointer finger and, like from last time pictures, the contact point between finger and strings was close to my nail" – *it was unexpected for me that she was keeping on using ideas from the previous lesson in this particular moment. She was recalling a picture from the A series of the last lesson;*	(18.14) I explained the name of those two "effects", she confirmed that she heard about 'glissato' before. So, I asked: "How do you play glissato?", "Can you play the whole exercises "sliding"?"	(18.46) "You just slide to the next note"
			(18.24) "Would it sound like this?" (she demonstrated how) – *the effect was accurate. Glissato was clearly heard;*
		(19.45) "Did you play like A1 or A1.1?"	(19.55) "Does the straight line means to stay on the string? What are the arrows for?"
(18.12) "Should we try again the shift of before but how?"	(18.18) The case study wanted to play trying "different contact points". I suggested also to mix some new pictures;	(20.04) "According to you?"	(20.20) She noticed the description I wrote at the beginning of the page; - *It might have been a bad idea to put descriptions on the page but it turned out that in the past lessons often those indications have been ignored completely;*
	(18.39) "What is the first picture supposed to be?" – *speaking of A1;*	(20.26) "So, was it like A1 or A1.1?"	(20.32) "I think it was kind of A1" – *I thought so as well;*
(18.44) "What is that picture according to you?"	(19.00) "Different ways you can go to transform that note";	(20.35) "How does A1.1 sound like?"	(22.00) The case study played the exercise with different sound quality but without shifting position;
(19.15) "What is the blue line to you?"	(19.17) "I feel the blue line indicates something like legato or staccato";		
	(19.44) "I will try A1" "Now that I think about it, the blue line indicates your finger	(23.30) I invited the case study to share her own visual instruction to describe the way she just played;	(24.15) My pupil sketched a picture which resembled a lot A1.1; She explained that it is a mix of A1

	(?)". I answered that this was the picture in my mind as well;		and A1.1, "…hovering from above but not like in a glissato. It's not jumping either"
(20.21) "Should we try?" Speaking of shifting from a note to another like shown un picture A1;	(20.14) A demonstration of the shift followed - *In this case the picture was not the same we had just moments before;*	(25.05) I spoke about picture A1.1 and the resulting effect was sung. I mimicked a lot the gesture as well. – *I was demonstrating what that picture meant to me but I believe I gave too many indications for this picture and I should have left my pupil reflect on it first;*	(25.40) The student copied the indications I gave;
	(20.30) The shift sounded clear but the two notes, although are connected in the picture, sounded really separated;		
(20.35) "The picture I got from you is a little different" I asked to take a piece of paper;	(21.55) "Now that I'm thinking about that, I believe I did something different from what was written there"	(26.49 till 33.10) We worked on the other exercises "Shifting on the G". Mostly verbally instructed;	
		Reflective feedback:	
(21.59) "Can you sketch a picture that resemble what you just played?" – *It was my first time requesting this. Although I have been teaching with the help of visuals since 2015, I have never done this before;*	The student went off camera to quickly get paper and colours;	(33.14 till 33.49) – *In this particular case I stopped the reflective feedback session at the beginning of it. Once the student told me that the issue about shifting was more or less achieved, I continued to the next stage;*	(33.30) "I feel like I kind of get it (speaking about how to shift)";
(23.12) "Please modify picture A1 the way you played the shift earlier"	(24.00) The case study shows a picture to the camera with her own contribution. - *Her picture is the*	(33.53) "Do you want to try any of the pictures I sent?"	(34.25) "What does it mean the picture in C3 and C4? It says 'gap/no gap'";

	reflection of the one I generated in my mind when she was playing. Now we have again the same image in mind;	(34.44) "Let's observe, do you see any gap in that picture (C3)?	(34.52) "Oh, yeah. I see there's a gap underneath and the thumb is just sticking up";
(24.35) I asked to play A1 again. – I sung something comparable to a "glissato" but the student didn't follow it.	(24.40) The student executed two notes with a quick change of position – I expected to hear a "glissato" which was my own vision of A1 and also the way I sung it;		(35.40) "Is it bad to play the violin aiming down? (D1)" – I answered that nothing is bad for as long as you are free (to move the hands). I gave an explanation for that picture, specifying that it doesn't always apply to everyone;
(24.56) "Can you notice the difference between A1 and A1.1? What you played was more similar to A1 or A1.1"	(25.21) "I feel it was more like A1.1, as A1 was more short and snappy and A1.1 looks like is more about a 'rounded' sound";	(36.50) "Can you play one of your pieces which have change of positions?" – it was my way to see if any transfer happened already;	(39.40) Student picked a piece by Tchaikovsky "Chanson triste", from bar 43 (shifts to third and fifth position);
(25.45) I asked to demonstrate both ways;	(25.50) The student plays in many different ways – for the first time the problem "shifting" vs "extensions" was heard;	**Reflective feedback:** (41.35 till 43.00) The reflective feedback session was ineffective as the case study wanted to fix the accuracy in the shift. I moved on as a consequence;	(42.00) "Sometimes it's not correctly in place. It's either too much or too little"; - every question was answered with a variation to previous statement. I decided to move on and start working on this issue;
(26.55) I wanted to share with the student my own interpretation of the given pictures A1 and A1.1, I told her that A1 is my visual idea of a "glissato";	(27.18) "I don't really know how a 'glissato' sounds like" – Surprising for me, as she recognized the 'glissato' sign (standard notation);	(43.15) I invited to do all shifts in the piece as they all were glissati, in order to feel the distance between notes;	(44.38) "I think I should practice with glissati as it is kind of easier. You just stop when you hear the right pitch";
(27.24 till 28.01) Verbal explanation of "glissato"	(28.10) The student did play a long		

followed; - *I was also mimicking movements and singing. At 28.00 I was also demonstrating without the instrument. I said "It has to sound like this (demonstration followed)";*	"glissato" but didn't shift anymore;	(45.18) "Can we refine the changes? You just did like in A1. Now, can you do like in picture A1.1?"	(45.42) Resulted in a more accurate rendition.
(29.32) "Can you play from note B to E 'glissato'? Like in the first picture (A1)";	(29.50) Resulted in a slow "glissato" and change of position;	(46.14) "How did you feel now?"	(46.16) "I think it was better because I knew the amount of space between two notes"
(30.35) "As earlier you spoke of pressure and contact points, do you think you can do differently A1 and A1.1?" *(Student replied positively so I followed with a more precise question)* "So, how do you do A1.1?"	(31.05) Student guessed some possible way. She was very uncertain, I asked her to show what she meant. She also said that she wasn't satisfied with the resulting sound;	(47.52) "Any other remark?"	(48.04) "Before this lesson, when I started learning about shifting, I felt it was a hard element. But when we did simpler stuff, I felt more confident. When you are confident with basic stuff you can move on to harder things. That's quite good to master basic things before to move any further"
(32.12) "Can I ask to sing A1 and after A1.1?"	(32.16) In her singing the difference was strongly noticeable;		
(32.30) "Can you play these two pictures now?" – *speaking of the same A1 and A1.1;*	(32.32) Sounded more like when she sang just a moment earlier;	*Lesson ended after 49 minutes;*	
(33.00 till 42.00) The lesson was verbally instructed; I was introducing the exercise picked up by the student (Exercise 2); - *the pace of the lesson was interrupted by a fire alarm;*	(41.44) The student noticed that was doing extensions rather than changes in position;		
(42.00) "Do you see any picture that can help you in reaching this (thumb mobility)?"	(42.27) "Is it A3 or A4 (?)" – *the tone of voice felt uncertain;*		

(42.30) I gave an explanation of the notation in A3 and A4, these pictures were not visual instructions but notation.	(42.52) "Maybe A2 till A2.2?" – I answered that it was a shifting technique, I asked her to see the pictures in series and to reflect on the left-hand thumb;
(43.44) Verbally, I explain what the pictures A2 till A2.2 represent to me. I end asking the student to play the shifts as shown in the pictures;	(44.38) The student tried; evident extra mobility of the left-hand thumb was seen. Some difficulty noticed when doing the movement backwords;
(46.24) Again, I was mimicking the technical gesture required in a shift. – My next research has to be about this…;	(47.10) The case study tried different alternative ways;
(48.26) I asked the student to play the other exercise but more like shown in picture A1.1; - For some reason I misunderstood and we ended up working again on Exercises 2 instead of reading a new one; I also sang the resulting effect, possibly influencing the outcome of my previous request;	(48.50) She decided to play the exercise on the G string but I didn't understand in that moment; (51.55) My pupil played the exercise in the way we decided, also here we were sharing the same vision;
(52.21) I asked to play the same excerpt but with 'glissato';	(52.55) The resulting pitch was too sharp, at 53.40 I asked to repeat the exercise "feeling the distance between two notes",

	it sounded a little better;
(55.20) I asked to play the exercise like shown in picture A1.1 (again);	(55.36) Change of position were a little more secure;
(56.00 till 59.40) The lesson was verbally instructed as the student was sight reading the other exercise (*Shifting on the E string*);	
(59.40) "Now, it's up to you to shift either like shown in A1 or A1.1"	(1,01.33) Some sight-reading difficulties but I noticed great mobility in the left hand; - *the shifting technique had developed a lot from the beginning;*
(1,03.20) "How was it?" – *the lesson continued for some more minute but we stopped as my pupil was called for dinner;*	(1,03.24) "Pretty good!"
Lesson ended after 1 hour and 10 minutes;	

Similarities and differences between the two case studies (lesson 2)

- o Verbal explanations have been useful to guide the case studies and learn about small details. Also, it was beneficial to the students when I was mimicking technical gestures or singing;
- o For the first time since I have been applying visuals, I asked the students to share their own pictures and it was a really successful idea. Both of them did an amazing job modifying visuals to fit their violin playing. Also, I could finally experience the need of explanation when I couldn't understand my student's own pictures;
- o Reflective feedback were important to analyse in depth what students wanted to develop and why;
- o Explorative lessons are characterized by long moments of trial and error. In this case, I didn't have enough time to play a piece which Case study-1 which was not positive to me. However, the transfer of knowledge could be seen between an exercise and another;
- o Picture A1.2 was not explored due to time limits. It happened also, with case study 1, that old pictures from the previous lesson were beneficial to let her express a point of view;
- o Both students looked really confident at the end of the lesson, I noticed that this lesson gave a great positive psychological impact on them;

Analysis of lesson 3

Starting point

Suring the last lesson, I have been instructing about "phrasing and expression. This way we finished from where we initially started. In fact, lesson-1 was about "vibrato", an expressive skill, the last lesson was even more about expressivity and the rendition of musical phrases.

To me, expression was noticeably lacking in my pupils. Achieving expression is a long-term goal, this lesson represented only a new starting point. Also, I wasn't totally sure about what my pupils knew already about "phrasing".

Visuals for this lesson included graphs and a meme as well, for the first time applied to a violin lesson. Charts were shown to further explore the topic, for the first time as well. All pictures for this lesson can be seen in the appendix (page 72-73).

As happened in the previous classes, I asked my pupils to craft their own little framework in order to enhance phrasing.

The lesson was also enriched by two small fragments from the 5th symphony by Beethoven. One was the original track, the other one was a noticeably altered version of the same excerpt. These two audio excerpts have been shared with the students in order to clarify what could or couldn't be related to phrasing.

This lesson was negatively affected by the video-call software. Generally, it was hard to hear differences in dynamics. Nevertheless, I've noticed a higher level of physical engagement when students experimented playing with louder dynamics.

In the following analysis, you can find more about what I saw during the lesson.

Detailed analysis of lesson 3

As planned, I asked three questions which are reported literally. *I added some comments in Italic.*

At the beginning of the lesson, after tuning:

- Case study 1, I asked: (4.40) "What is a musical phrase?". (4.53) She saw the pictures I sent her, mentioning that it was like one of them. *Not sure if she could find the exact words for what she meant so I continued to the next step. I asked about expression later;*
- Case study 2, I asked: (2.00) "To you, what is a musical phrase?". The student replied: (2.13) "it's when you divide the music into parts"; - *she was referring to previously learned theory;* at this point, I asked her (2.48) "What is expression for you?", she told me: (2.50) "When you are playing but not just playing, you put emotions";

My next question was:

- Case study 1, I asked: (5.44) "In your words, how do you do that? For example, in music". She replied: (5.48) "In music, it's the place where you put stops or rests". "The way you express the music" – At this point I asked her: (6.28) "What is expression for you?" and she told me: (6.41) "The way… you present it (*the music*)";

- Case study 2, I asked: (3.32) "How you do that? How do you do a musical phrase and how you add expression to a phrase?". My pupil said: (3.45) "You sort of make the violin part of you. You move around, you play also with dynamics" – *I think she referred to embodiment as a form of expression;*

Concluding this part:

- Case study 1, I asked: (7.03) "Can you demonstrate it somehow?". She played a melody with slurs, which she considered as a technique which could enhance phrasing; So, I asked (8.04): "Can you phrase it differently now?" so she did a slurred scale, up to the 5th;
- Case study 2, I asked: (4.40) "Can you demonstrate a little bit of expression and a little bit of phrasing?". She replied that she didn't know what piece to play. So, I suggested to do a piece she was studying. At the end, she picked up the "Chanson Triste" by Tchaikovsky. The first time she played even notes without adding any expression. *In a way, it was a phrase, at least according to any theory book. Or a semi-phrase at least.* The second time she played the same fragment adding vibrato on the long sounds and some noticeable body motion;

At the end of the lesson, case study-1 wanted to share with me her own picture (Figure 14) explaining how this topic looked for her: "Phrasing: (*to add?*) rests, (*to change?*) the tempo, dynamics, slurs, note values, the way you present it, the way you express the music". A funny and a little confused construct could easily be noticed, this topic will definitely need further development. However, a very nice and respectable contribution. Here it is:
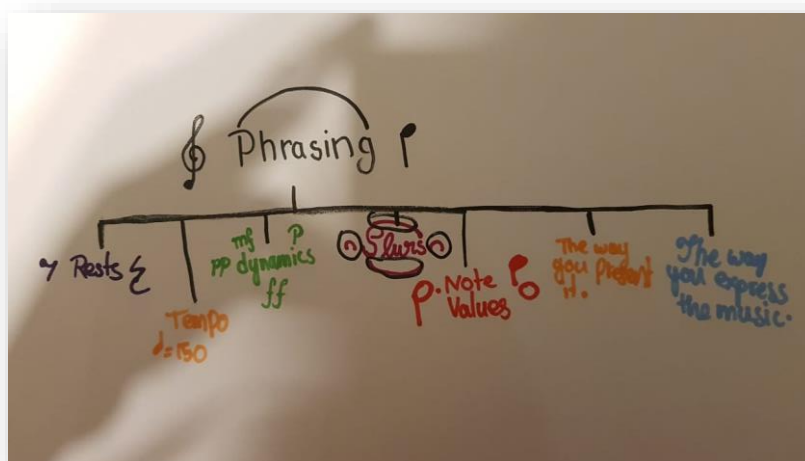
FIGURE 14: VISUAL BY SAI

From this point on, the two students proceeded following a personalized path. You can follow my analysis on the interaction I had with them in the following analysis of the lesson. All the parts relevant to this study about visualization are evidenced in **bold**. A few personal comments are *expressed in Italic.* I avoided refraining the word "minute". Instead, you can find in brackets the exact moment when facts have happened, for example (3.00) stands for "at minute 3.00".

Lesson 3 – Expression and phrasing			
CASE STUDY 1		**CASE STUDY 2**	
My interaction and comments	Results of the interaction	My interaction and comments	Results of the interaction
The whole first part of the lesson was a sort of investigation to understand what my pupil knew already about phrasing or expression. It lasted more than 30 minutes;		(6.56) "Can you see picture A1? What's written?"	(7.38) She noticed the presence of a comma that changed the meaning to that sentence;
(9.00) "Let's open that example that you mentioned before, was it picture A1? Right? Can you read the higher line? And the lower line? Did you noticed any difference in wording between these two sentences?"	(9.45) "The way you write it with a comma, it changes it a lot"	(7.50) "If you do the same in music, keeping the notes the same but taking a rest all of a sudden in an unexpected point, would it change the meaning of the music as it happened in picture A1?"	(8.07) "It would add some dramatic pause, depending from the piece you play";
(10.33) "In music, if we add a comma/a little rest, like you saw in the picture earlier, do we change the meaning of it?"	(10.46) "Sometimes yes and most of the times no"	(8.50) I asked the pupil to listen two different version of the beginning from Beethoven 5th symphony. One was the ordinary version, the other was different as it had rests before the long notes. My question to the student was: (9.45) "Despite the notes are the same, did you get the same message?";	(9.50) "In the first one it reminded me the beginning of a piece, and is go on it has a "ritenuto" and a pause finishing it off I guess" – *I think she thought that I took the second recording from another moment of the symphony;*
(11.08) I asked the pupil to listen two different version of the beginning from Beethoven 5th symphony. One was the ordinary version, the other was different as it had rests before the long notes. My question to the student was: (12.50) "What kind of feeling did you have in the	(12.55) "There was more suspense in the first recording"	(10.10) "What kind of picture came to your mind with the first excerpt?"	(10.16) "Something really big and loud, the second one is the same but I can't see it. It's mysterious"

first recording you heard?";		(10.34) "If you see picture A2 and A2.1, which one is the first excerpt? If any of them";	(10.50) "A2 was the first one";
(13.38) "Do you feel like the first recording was more like A2 or A2.1?"	(13.55) "I think it was more like A2" – She explained that the longer is the rest, the smaller is the "suspension", therefore the second recording felt "uncertain";	(10.56) "So, was A2.1 relatable to your own mental picture of that second excerpt?"	(11.00) "I don't really think it was that! It was more mysterious" – *I was surprised as I felt we add a very similar picture in mind;*
		(11.50) I asked to sight read one of the pieces I sent her;	(12.45) She decided to read "The old castle" from Trinity;
(16.33) I asked to read one of the two pieces I sent. She knew the one chosen ("Cha-cha bowing" from Trinity College);	(17.45) Case study played the piece without difficulties;	(14.00 till 15.53) Sight reading of the piece without any expression, as I asked;	
(18.20 till 23.10) Lesson was verbally instructed, I asked the student to play in many different ways. "How can you "rephrase" this music?" was one of the questions – for her phrasing meant: 1. To add rests, 2. To add slurs, 3. To change the length of the notes and so on. *All very much alterations of the piece rather than just phrasing;*	(20.00) She tried different possible ways to play the piece, *she wanted to add rests in order to make different phrases but it wasn't my request.* At the end she played the piece adding slurs to create a different expression. She mentioned (21.53) "pieces with slurs have a mellow/smooth effect…";	(15.58) "Now, can you play this piece with expression or some phrasing?"	(16.19) The student played the piece. *I noticed body movement, from bar 5 to 7 she was giving more emphasis on the second notes. The theme was louder the last time she played it and no vibrato was noticed except at the very end;*
Reflective feedback: (25.00 till 26.58) *this was a fairly long reflective session. However, even if it didn't strictly follow all steps typical of the Gibbs'*	(25.25) "…for my personality I like jazzy/rock song" – she didn't reply (or she replied only partially	**Reflective feedback:** (17.12 till 19.16) *I think this case study had clearer ideas about what expression was and what phrases could be, even according to musical theory. This complete reflective feedback was*	(17.19) "I tried to use some vibrato in some place, more dynamics (?). It went good"; (17.40) "I felt normal"; (18.23) "All my notes went all smoothly. Expression was good";

model, it proofed to be an amazing source for further analysis. We reflected on up to what point can we change a piece if we want to do different phrases, at **26.12** she gave an admirable lesson about what she understood up to that moment, I report it on the right column ->

(27.08) The student tried the piece giving it a strong "staccato" feel, at least in the beginning. It felt more "legato" in the second part;

(29.27) "How about dynamics, do you put them into account when it comes to add expression to a piece?"

(30.10) "We did some work on vibrato (*lesson 1*), would it change the expression?"

(30.46) "Fine, I will show you how I see things my way";

(30.52) "Can you see picture C1 and C2?";

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at the beginning) to my question: "…anything good or bad about the way you are phrasing?" Also, I recognized she attempted a "swing" rhythm in the last rendition she gave of the piece and I asked more about it;
(26.12) "…there is an extent, a difference, between changing a piece and phrasing it"

(27.42) She explained she did more tenuto and sometimes legato;

(30.00) "They don't change that much, it's not really a way to add expression"

(30.20) "Depends on how long you hold it (?). If you hold it for a long time it would become more 'legato'";

(31.08) "Ok, what that thing means?"

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successful, however when I got answers that were too general, I didn't require to be more specific. That's fine as well as my first half of the lesson was more of an investigation about what my pupil already knew about the topics of the lesson;

(19.15) I suggested to play the piece with a lot of dynamics;

(21.05) "In picture D1, what do you see?"

(21.39) "…so if I want to play a dark colour, do I play loud or soft?"

(21.47) "Pianissimo, to me (*according to the picture*) is it very dark or very bright?"

(22.16) "For me musical phrasing is the way you connect the notes, the way you give direction to the music. Visually I represent it in many

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(18.44) "I could be more dramatic with the dynamics";
(19.07) At my question if dynamics were part of her expressivity, she remained uncertain and answered "uh…(?)";

(19.24) *I noticed mostly loud dynamics, probably because of the software in use for this lesson which, I think, was stabilizing dynamics at the same level;*

(21.30) "It's the different sounds in art (?)"

(21.44) "Loud";

(21.57) "It's so peaceful I guess"; - *I was again surprised by this interpretation, which was very valid to me;*

(23.00) "It's kind of all-over the place but it is going upwards";

(31.10) "Do you do charts/statistics at school?" (31.24) "It's the way I see a musical phrase, when I play music, I try to understand the trend. Does it go up or down? For example, in the first chart does the trend go up or down?" (31.57) "Correct, that's the way I see a piece of music. I will show you better, go up to B1. If you connect with a line all the note heads (*I sung the line*). I do phrases by connecting the notes together, not changing their length but doing different dynamics" *– It followed a part where I sang and mimicked the way music went;* (33.50) The lesson was verbally instructed, we wondered which note would have been soft according to the instructions in the picture B1;	(31.18) "I do, but what is the chart about?" (31.48) The student recognized the upward/downward trend easily; (34.42) Mentally everything was clear but it was hard for her to control the dynamics that were rapidly changing, later she said *(follow below)* (35.05) "If pick two people and you give both the same piece, they won't have the same way to play that piece... They will also have their own	ways. In C1 and C2 you can see two charts. To me, doing a nice sentence in music is like recognizing trends in the charts. In C1, for example, do you see an upwards or downwards?" (23.33) "In B1 you can see a piece of music, if you join the note heads as they were in a graph, you could play louder as you move upwards and softer if you go down, to give some direction to the music"; - *I sang the way that excerpt could sound according to what was shown;* (24.27) "Should we do like in B1 on the piece you played before?" – *I showed her on my laptop screen where the highest/loudest sound was in the first 4 bars and where the softest note would have been, according to the system shown in picture B1;* **Reflective feedback:** (25.31 till 26.23) *In this case it wasn't a full circle of reflection but many positive things were noted, like "feeling that it was more connected". It was something I wanted*	(25.15) I heard mostly loud sounds but a clear structure of dynamics; (25.33) "It was good"; (25.43) "I felt it was all connected"; (26.00) "I felt it was directing";

	interpretation of the piece" *I asked so if she just played her own interpretation of the piece, she said:*	to achieve in my lesson plan and I was happy to hear that, according to my pupil, it was happening;	(26.15) "I don't know if I could have done more";
	(35.46) "Not really, it was just the way I interpreted the notes… I interpreted the way Trinity (*the syllabus followed by the student*) wants me to do"; - *she said that the backing tracks are in a way inviting her to play the way she did;*	(26.24) I asked to play the next four bars keeping in mind the same picture B1, also I added: (26.35) "Can you think the lowest sound is pianissimo and white while the highest sound is black and fortissimo?" like in picture D1;	(28.06) It sounded richer in dynamics, with a clear structure;
(36.50) "The problem of my vison/picture B1, is that when I play repeated notes, I will risk to play always the same way without changing dynamics. But, instead, I like to get softer and softer or louder and louder as you did beautifully in a spontaneous way towards the end of the piece";		**Reflective feedback:** (28.53 till 30.50) *She told me that setting criteria like "the higher notes are louder the lower sounds" was really beneficial for giving a good presentation of the piece, with phrases and dynamics;*	(29.01) "I think I presented the piece well, with phrases and stuff"; (29.25) "I felt confident"; (29.39) "There was a variety of dynamics, it sounded expressive"; (30.03) "It's good to have a way (*system*) and use it throughout the piece"
(37.37) "How did you feel connecting notes like you were making lines with the dynamics?"	(37.53) "Depends on where the note heads are leading… I think you first write a piece and after you add dynamics" – *I said* "…you dress a piece with dynamics", she replied "it's like	(30.52) I asked if she could play the piece capsizing the scheme she had in her mind, doing loud low sounds and soft high notes, however at 31.50 I asked to play once that way and straight	(32.10) The piece sounded with the dynamics as they have been required; *Sometimes the lowest notes sounded loud but not immediately, they became so after a moment. It was*

	you get dressed and, according to your dress, you fix your hair"; It's a picture as well (?)	after the way she felt at the moment;	frustrating to listen this execution as the electronic stabilizer kicked in again;
(39.01) "What do you see in D1? Did we used this picture already in Oman (where I met this pupil)?"	(39.15) She told me that "the more pressure you put, the loudest it gets"	(33.46) "The most expressive version of it, according to you"	(34.40) After a minute of exploration, the case study played the piece, no vibrato was heard. It reminded me of picture B1, I heard accents on the second note of the slurred sounds. She will tell me later on that it was intentional in order to give more direction;
(40.55) "Can you make every low note very "light" (like in the picture D1) and every high sound very "loud"?"	(41.21) Sounded often as requested. It looked like it was difficult for her to play softly but maybe it was because of the video call (?);	(35.30) I asked what were the strategies adopted by her to make the piece more expressive;	(35.42) "Some notes stood up to me, I played accents and made them louder. Other ones, that had the melody, I played them softly, adding dynamics to make it nicer";
(42.05) "Can you play the other piece? ("The old castle" from Trinity)	(42.15) She asked me if she had to follow the written dynamics or not;		
(42.46) "Let's think it's a blank canvas without written dynamics, you have to be expressive only by phrasing the way you feel or the way you think it. How do you do that?"	(43.08) "I will do the way I think, this piece won't work with the higher notes louder"		(36.19) "I think it was sounding really nice, actually";
		(36.30) "The first lesson we recorded was about vibrato, in this case is it part of your expression?"	(36.42) "Yes" – I was really confused because I couldn't hear any vibrato from her last execution. Maybe she meant "Yes, I should have considered it" (?);
(43.26) I asked to play once as it was printed on paper and afterword in the way she planned;	(45.00) Her own interpretation of the piece was generally "forte", "legato" and with a lot of vibrato. In the first rendition of the piece, the "original one", it sounded a lot less expressive;	(36.58) "Can we use any of the learned strategies on a piece you are studying?"	(37.47) She wanted to play the piece she did in the beginning;

(45.40) "Nice, what did you do?"	(45.43) She started listing a series of moments where she changed some dynamic in the piece; - I was impressed because she was telling me that more dynamics and articulations where added, at least according to her. In effect, I didn't hear all of them in the execution she just gave but now I wonder if it was again because of the internet connection;	(38.26) "Can we play to lines-ish, in the way you usually play and once with new learned strategies?"	(38.45) She played the piece in a way she used to do;
		(39.12) The student announced that was going to give an execution of the piece "with expression", so I heard it;	(39.48) "I think it sounded a lot better with more going for and being confident"; I didn't notice a lot of changes from the way she did before. She was moving more with her body, the last note sounded long and delicate this time;
(49.23) "Did you keep the dynamics the same or did you do any change?" I asked this because I didn't notice major changes in the dynamics;	(49.41) "This is more of a sad piece; the dynamics shouldn't be sudden here or there" – also because I asked her if she did some "subito piano or subito forte" maybe;	(40.26) I told her that, in my picture, the notes followed trends, they went up/down and dynamics as well as a consequence. But "what happen if you have repeated notes? Do you keep them the same?"	(40.37) "You could change them a little bit, some longer, some shorter"
(50.05) "Can we do one of the pieces you are studying now and work on expression or phrasing?" – she played the "Rustic dance" Trinity College		(41.03) I asked if she could sing what she meant;	(41.08) She sang putting a stress on the first and third beat;

(42.11) "It was nice"; |
| (51.12) I asked to play the piece in the way she used to play it; | (52.22) Student played as she used to do; | (42.30) I started scribbling on my paper, I wrote her the beginning of the piece but adding a crescendo mark and "piano" at the beginning, "forte" at the end; | (42.52) It sounded more or less as I instructed it; |
| (53.40) "What can you do to make it sound a little richer?" | (53.57) She was very humble and said that as she didn't pass this | | |

	grade yet, it would have been hard to change it;	(43.00) I asked to start upbow now; - *it's easier to play a soft note starting upbow;*	(43.17) Notes sounded uneven. But the crescendo was noticeable;
(54.56) I asked: "What can you try? We saw many possibilities today";	(55.28) My pupil wanted to capsize the dynamics; - *she wanted to keep this a little flexible;*	(43.28) "How did you feel?"	(43.31) "Easier to start upbow to do a crescendo, because downbow it's easier to make it louder";
(55.55) I wanted to know if she wanted to add other features like vibrato or other things I didn't think about;	(56.23) "Let's try";	(43.43) "So, can we start upbow and do four notes in a bow?"	(44.07) The crescendo came through but the staccato wasn't heard;
(56.27) "Play the way you want, like you said before capsizing the dynamics";	(56.40) *It was really hard for the student to do this task! I didn't expect it. The piece sounded so much more complicated, the student had to stop many times and asked to restart all-over again; It was very hard to do things completely differently;*	(44.11) I was mimicking the gesture of a "U" asking her to do a wavy sound, I also sung what I meant;	(44.20) The sound was surprisingly clear, both dynamic and articulation were very clear;
		(46.06) After replaying the piece again, I asked "Did you have more expression? Or did feel that you did nicer musical phrases?"	(46.11) "There was more expression";
(58.18) "Does it feel more difficult to play this way?"	(58.20) "It's difficult at times as I was concentrating on other things" – *I think the student was trying to do a lot of different things at once so;*	(46.40) "Was this lesson fully clear? Or you would have preferred different pictures?"	(46.44) "It's nice that you explain and that you pick from the form. So, if I don't get what are you saying, it's sort of another way to saying that. So, it's more clear";
(59.35) "I would love to listen it again"	(1,00.05) Student played a lot more confidently and energetically - *I*	(47.10) "When I was speaking did you ever had a different picture in your mind?" The lesson ended after	(47.26) She told me only in one case, about the Beethoven 5 fragment;

	noticed different articulations every here and there but not many other changes;	**48 minutes**	
(1,01.05) "Wow! ...how did you feel now?"	*(1,01.10) "I was still way out of tune but that is it!" – she smiled satisfied;*		
(1,01.16) "Did you do some different expression in this case? In comparison to the first time you played?"	*(1,01.27) "Did I?" – I told her that I noticed so much more energy in the last execution;*		
The lesson ended after 1 hour and 2 minutes			

Similarities and differences between the two case studies (lesson 3)

- o The meme triggered logical and analytical thinking in both. Case study 1 came to the conclusion that: "There's a difference between changing a piece and phrasing it" (26.12). However, after the lesson, she shared a picture which represented her own way to see the topic which could lead to the alteration of a piece rather than simply doing different phrasing;
- o Verbal and non-verbal instructions have been used as guiding tools for these lessons;
- o Both students didn't consider vibrato as an expressive skill, at least in an initial phase;
- o Initially, both student 1 and 2 didn't think about dynamics as a way to enhance expression;
- o Interpreting pictures and making sense of them was again a great experience. For the first time I shared two charts and the students were able to do something with them. They got more ideas for playing again in a different way;
- o Case study 1 said that the syllabus she followed was limiting her expressivity, in the sense that the she likes to play over backing tracks which are recorded giving room to only one interpretation and not helpful to explore different alternatives;
- o Case study 2 mentioned that, at a point, me and her had a different picture in mind. It was surprising as I felt we had a very similar idea;
- o Comparing sounds to pictures was again an interesting way to reflect upon different playing modalities;
- o Capsizing the meaning given to pictures was also in this case a valid explorative solution. Case study 1 discovered that it's harder to do that when you focus on multiple things at once;
- o Setting strategies before playing worked really well when it came to create a small framework for enhancing phrasing;

I will now proceed to draw my conclusions, taking into account not only my perceptions but especially considering what external observers have seen throughout my intervention.

I will speak about their findings and put them into relation with my own experience.

What external observers have noticed

I can draw some important conclusions with the help of thirty-six observation sheets. The observations were, mostly, about how the teacher instructed the lessons and how the students have responded to the instructions. Often, the observers have been producing comparable data. However, in order to draw conclusions, only observations which had at least two-third of the majority have been considered. Single findings have not been considered. Nevertheless, handwritten individual remarks were separately noted as they could give more meaning to data or show a different point of view.

Filled observation sheets can be found in the appendix (page 87).

Lesson 1, about vibrato – case study 1

Speaking of the teacher, me, observers noticed that I gave an average amount of instructions. The teaching style of the lesson was described from all as "collaborative learning". On the communicative side, my voice sounded often enthusiastic and energetic. I provided a safe working environment.

About visual instructions and how I introduced them during the lesson, I asked the student to give interpretations of the visuals and discussed about it. I also explained what to do with visuals.

I didn't draw any visual instruction on the spot but I have been stimulating the pupil to come up with her own pictures. I have been guiding the lesson with the help of verbal instructions, embodiment but also metaphors and comparisons.

Other elements noted by the observers about my teaching strategies: the application of constructive feedback, the freedom given to the student in order to explore visuals, the presence of a clear lesson plan and the fact that I was providing clear instructions. Observers noticed that I asked the student to repeat many times the same material.

A long comment was attached to an observation about the teacher's choices: "(…) asking questions to the student all the time about every detail and element is played or explained. The student is encouraged to reflect about its actions and sound. The teacher barely gives feedback on what the student is doing, but leads the student to draw their own conclusions. Sometimes I find it a bit confusing for the student because she might not have a clear role model".

Speaking of the student, the observers noticed that her voice was energetic and communicated enthusiasm. In fact, one observer mentioned also that her voice was "quite confident". The student was speaking at average speed.

About visualization, the student asked little or no questions in order to understand the pictures. According to an observer: "questions were mostly made by the teacher".

Sometimes, visuals have been interpreted by the student in different ways. The exploration was sometimes autonomous. According to all of the observers, visuals have been often a great support for the student even if only sometimes they have been triggering logical thinking. One observer noted that there weren't too many occasions to notice if any transfer of knowledge happened even though two third of the observers saw it happening at times.

During this lesson, pictures showed and compared features which the pupil could have explored later in different ways, they had an explanatory role and showed what and how to complete specific tasks.

Lesson 1, about vibrato – case study 2

About me as a teacher, it was noticed that I gave an average amount of instructions. The teaching style of the lesson was described as "collaborative learning". Observers noticed that I created an informal and relaxed atmosphere. The tone of my voice sounded mostly the same.

Speaking of visual instructions and how I shared them, I asked my student to give interpretations of them and discussed about it. Also, I explained what to do with them by means of demonstrations. However, one comment specified: "only visual, not auditive. Sometimes it could have been more clear".

I didn't draw any visual on the spot but I invited my student to come up with her own visuals. I have been guiding the lesson by means of verbal instructions but also with metaphors and comparisons.

Other features noted by the observers about my teaching: the application of constructive feedback, the freedom given to the student in order to explore visuals (comment from an observer: "this is something very nice you do!"), the presence of a clear lesson plan and the fact that I was providing clear instructions. Partially, I was trying to reach many goals at the same time. Also, I didn't ask to replay many times the same music. Goals for the coming lesson were partially set as well.

Speaking of the student, the observers noticed that she was speaking at an average speed while her voice remained mostly the same. One observer commented that he noticed about her shyness.

The exploration of the visual instructions was not so often, or never, autonomous. The interpretation of visuals was sometimes different from what the teacher expected. Both the transfer of knowledge and logical thinking were sometimes noticed.

Pictures for this lesson compared features that the student could have later done in a different way. They also showed what the task was about and how to complete it. Visuals clarified the instructions of the teacher.

One observer mentioned the positivity of letting the student decide what's correct for her or not.

Lesson 2, about shifting positions – case study 1

About me, as a teacher, I gave an average amount of instructions. The teaching style of the lesson was described as "collaborative learning". I was providing a good/safe learning environment. My voice sounded regularly energetic and enthusiastic.

About the visual instructions, I asked my student to give interpretations of the visuals and discussed about it. I also explicitly said what to do with the given instructions.

I didn't sketch any visual on the spot but, instead, I invited my pupils to craft their own visual instructions. I have been guiding the lesson with the help of verbal instructions but also metaphors and comparisons.

Other features noted by the observers about my teaching: the application of constructive feedback, the freedom given to the student in order to explore visuals and the presence of a clear lesson plan. I haven't stopped my student while playing. I was not asking to reach many goals at the same but my instructions were only partially clear. An observer wrote that during this lesson the student couldn't immediately understand my instructions. Another remark about me, from a different observer, was also very detailed. In particular, it

was mentioned that the lesson had a nice start thanks to a little informal chat. Also, it was noted that it could have been very useful sometimes to play and demonstrate how to do something with the help of my violin playing. About the time to think, play and respond: "(…) it's nice you always ask the student to reflect about how did they do something and how they felt and then you give time for them to explain it. Nice you ask her 'how would you achieve this goal', then she proposes a way and you encourage her to try it out." Singing was noticed too: "it engaged her a lot, changing a bit the way you usually work". However, the transfer moment was not easy to notice, according to the same observer, because the pupils didn't manage to play a piece despite a long lesson: "from my point of view, I'm not sure she has a clear idea on how to apply what you worked on a song and connect it with music making".

Speaking now about the student, the observers noticed that she was speaking at an average speed and her voice often felt enthusiastic and energetic. In the extra comments, an observer said that despite she was smiling, her body language communicated tiredness as she was resting the violin down.

Sometimes, visuals have been interpreted by the student in different ways. The case study asked an average quantity of questions in order to understand the given visual instructions. The exploration was sometimes autonomous. At times, visuals have been triggering logical thinking and the transfer could also be noticed in some occasion. About this, an observer wrote: "I think this is encouraged by the reflection you always do after playing (…) leading the student to think about a solution or a way to achieve the goal".

Visualization in this lesson was useful to define what was the task and to see how to do something. Visuals were shared to explain what the teacher meant but also to compare two, or more, different approaches.

Lesson 2, about shifting positions – case study 2

During this lesson, I provided an informal and relaxed atmosphere. My voice remained mostly the same.

Speaking of visualization, I generally asked my student to give interpretations of them and we also discussed them. I demonstrated what to do with my visual instructions, according to an observer also with "hand gestures".

I didn't draw any visual on the spot. However, I invited my pupils in creating their own. I have been guiding the lesson by means of verbal instructions but also metaphors and comparisons. Practical demonstrations were not noted, as specified by an observer: "I really miss your demonstrations. They don't have to be with sound but also visual". However, I feel it can be a little contradictory as the same observer wrote earlier about demonstrations by means of "hand gestures". I believe this observer meant that I didn't show the student any example on my violin.

Other features noted by the observers about my teaching: the application of constructive feedback, the freedom given to the student in order to explore visuals and the fact that I was setting clear goals for the upcoming lesson. The presence of a clear lesson plan was partially noted. My instructions felt partially clear this time.

Speaking of the student, the observers noticed that her voice remained mostly the same and she spoke at average speed.

The student asked an average quantity of questions in order to understand the given visual instructions. She often explored them by herself. She had different interpretations almost never, or not so

often. Visuals triggered logical thinking often. Sometimes, the transfer could be noticed. Visualization in this lesson was useful to show how to do something and to clarify what the teacher was saying.

An observer commented in great detail what seen during the lesson: the student was "more confident and happy". The transfer moment was apparently more evident: "during the lesson I see she is trying to connect her previous knowledge with the new material you are proposing". About singing, the observer commented that I should ask my pupil to sing more often since I do that quite a lot. A last comment was: "Nice that at the end you have time to work on the piece and apply some of the elements (using your material) you worked on previously. So she has a better picture on how to apply it."

Lesson 3, about expression and phrasing – case study 1

The teaching style of this lesson was described as "collaborative learning". On the communicative side, my voice sounded often enthusiastic and energetic. I provided an informal and relaxed working environment.

About visualization, during this lesson I generally asked my student to give an interpretation to the visuals and discussed about it. I also said what to do with shown visuals by means of "hand gestures" as stated by an observer.

I didn't draw any visual on the spot but I invited the student to come up with her own visualization. I have been guiding the lesson with the help of verbal instructions but also metaphors and comparisons.

Other elements noted by the observers: the application of constructive feedback. About "feedback" I will share also an extra comment: "Sometimes the way you react to their answers can be a bit confusing for them, not giving a concrete feedback". I didn't interrupt the student during the exploration phase nor did I give too many goals at once. The freedom given to the student in order to explore visuals, the presence of a clear lesson plan and the fact that I was giving clear instructions were also noted. I have been partially asking the student to replay many times the same music.

I will resume a comment found in the "teacher observation sheet". An observer was particularly positive: "I love the way Sai defines the concepts you ask, she is super clever! Very nice demonstrations and I like how you ask to phrase in different ways to encourage her to explore by herself". However, the observer noted that I never shown some example on my instrument. Speaking of the beginning of this lesson, when I play some Beethoven from my laptop, and the resulting discussion: "(…) I like the idea of listening the two Beethoven versions. It's really interesting. Yes! A song at the very beginning! Nice. Good way to start a lesson focused on the phrasing. It's really interesting how she reflects about the piece and how should be played and connecting with musical elements/strategies like slurs, tempo, dynamics, etc. And also how you guide her and let her explore different versions".

Speaking of the student, the observers noticed that her voice was energetic and communicated enthusiasm while speaking at an average speed.

Often, the exploration was autonomous. The student asked an average amount of questions to understand visuals, however she often had different interpretations. According to an observer, this was particularly noticeable by observing her body language.

Logical thinking was triggered by visualization which were, often, a great support for the student.

Data about the transfer, in this particular instance, couldn't generate a clear trend as all observers had different opinions: the options "often", "sometimes" and "not so often/never" were all checked. Everyone saw a different thing. Nevertheless, an observer stated: "In this lesson is where I could see much more the transfer from the explanation to the actual music".

Pictures in this lesson showed how to do some musical features and added an extra layer of clarity to my explanations but came handy also while comparing two or more different approaches.

Lesson 3, about expression and phrasing – case study 2

I gave an average amount of instructions during this lesson. My voice was regularly enthusiastic and energetic, I created an informal and relaxed atmosphere. Teaching style was defined as "collaborative learning".

Speaking of visualization, I asked my student to give interpretations to visuals and discussed about it. Also during this lesson, I said what to do with given visual instructions.

I drew them on the spot and invited the student to sketch her own. I have been guiding the lesson with the help of verbal instructions but also metaphors and comparisons. An observer noticed the presence of "hand gestures".

Other elements that had been noticed about the way I taught: the application of constructive feedback, the freedom given to the student in order to explore visuals (noted also by an observer in a written comment), the presence of a clear lesson plan and the fact that I was providing clear instructions. I didn't interrupt the student while playing nor did I give too many goals at once.

A relevant comment about this lesson was written at the end of an observation sheet: "It's really interesting to see how she answers the first two questions you ask. She has a pretty clear idea of what is phrasing and expression. She already talks about dynamics and movement. And I like you ask her to play a piece to demonstrate it and then reflect about, analysing the elements she used. I like when you say your own interpretation of musical phrasing, it would have been lovely if you would have shared it also (*by*) playing. I really like when she does her own version and then you make her also reflect about it afterwards. I also like you make her play the whole piece".

Speaking of the student, from a communicative point of view, her voice remained mostly the same. She spoke at average speed.

Sometimes, the exploration of visuals was autonomous and, also sometimes, she had different interpretations, an observer specified: "as she said, the one for the Beethoven symphony. Visualization, often, triggered logical thinking and was a great support for the student.

Pictures, during this lesson, showed how to do musical features and added an extra layer of clarity to my verbal explanations.

A detailed comment and reflection followed one of the observation sheets: "It's interesting to see that in the sight reading apparently she is not trying to add expression or look for the 'musical meaning' of the piece. The story of the piece. But then when you ask her to add these elements, she does great. Do you think that some students will go direct to look for music expression? Should we focus on achieving that with our students? Shall we separate a "simple sight-reading" without expression from music making? It's really nice that right from the beginning she knows some of the most important elements of the phrasing and add

expression to the piece (vibrato and dynamics basically). Also, I see her very much engaged with playing in this lesson, she has really nice ideas and she has been able to propose them by playing and singing. She is happy to show it having the space and time to do it. I think this is the lesson where she improved the most".

Chapter 4: conclusions and discussion

Drawing conclusions

In the following part, I will answer my primary research question: what's the effect of enhancing instructions with visuals? An answer about the relation between visualization and logical thinking will also be given. This research has shown evidence of what can be the effects of enhancing instructions with visualization during individual violin lessons.

Results and answers to the research questions

Teachers can positively apply visuals to show how to bring theoretical skills into practice and add clarity to their own verbal instructions. Informal and relaxed learning atmospheres are the most appropriate backgrounds for visual enhanced lessons. Average amounts of instructions are enough to support the students while learning by means of explorations. During this study, in three cases over six, visual instructions helped the teacher in clarifying what was the task about. At the same time, they came handy to compare two or more different techniques or musical features. As stated by case study-2 at the end of lesson-3, multiple forms of instructions can happen at once and are effective to enhance students' comprehension. Verbal instructions, metaphors or comparisons as well as embodiment, singing and hand gestures, can be functional forms of instruction also when coupled with visuals. Visualization plays a great role when it comes to start reflections which can lead towards further explorative learning. During visual enhanced lessons, both "collaborative learning" and "critical feedback" could be seen as the most recurrent features.

By means of autonomous exploration, students can often experience new ways to express themselves, assuming that the time to play, think and respond is given to them. Sometimes, differences between how the teacher saw a picture and how students perceived that, gave room for important moments of reflection, analysis, exploration and more practical development. Therefore, teachers need to take into account the possibility that students can have different interpretations of visuals. Asking the students to explain what they see in visual instructions can be important, as it is also crucial when teachers stimulate the students to come up with their own visuals. This can help teachers in better seeing the level of comprehension from their students. As seen earlier in this study, visuals don't need to be drawn on the spot in order to be effective.

During this research, students have been able to "craft" techniques and frameworks by mixing different visual instructions. The transfer of knowledge was not always easy to verify. However, a great personal development could be noticed during every single lesson. It's possible to learn skills and techniques through visualization but the difficult part is to apply it to the repertoire. This is even more evident when there are issues such as sight reading to disturb the application of newly learned skills. Data have shown that, in the majority of the lessons, four over six, the transfer could have been noticed "sometimes". In the remaining two cases over six, data didn't show a clear trend, spacing from "often" to "not so often/never" thus I did not take it into account.

Clear lesson plans and instructions are also beneficial to visual enhanced violin lessons. Not asking the students to reach too many goals at once can also be considered as a supporting factor.

Speaking of the online lessons, a negative aspect of distance learning has been noticed while working on musical dynamics. Software originally coded for virtual conferences have shown their limitation in this

instance. Probably the "noise reduction" feature and the digital sound equalizers, even if disabled, were anyways influencing in a negative way the perception of certain musical features.

A particularly positive element of these "visual enhanced lessons" was the unexpected boost on students' confidence. Almost every lesson resulted in a high level of students' satisfaction witnessed by smiles and positive remarks from both pupils and observers.

At the end of this study, it's possible to say that according to the analysed data, visuals have been a great support on students' musical development. Also, thanks to the help from the external observers, it has been noticed that visuals have been positively impactful on student's logical thinking: it happened "often" in three lessons over six and "sometimes" in the remaining three cases.

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b. Appendix: lesson plans

Intervention plan for lesson 1 (focus on vibrato):

Starting point

My pupils have already prior experience with this technique. In particular, they know exactly what kind of technique is and what the sound should be like while playing "vibrato". Without any negativity, what is not so clear, yet, is the "how to". In fact, there are many possible ways to make a sound vibrate on the violin.

Other than that, at the present moment, vibrato doesn't come spontaneously from the students but only "on request", like if this technique was an added technical challenge rather than an expressive nuance. The reason might be that their own technique needs further development, in the sense that they have to develop their own way to vibrate.

Goal(s) of this lesson

The main goal is to reach a point when "vibrato" will become an expressive tool, which can be added to any piece in order to make it sound more pleasant. Coprimary goals are as well:

1. to raise awareness of different possible vibrato techniques (E: categorization);
2. adding vibrato to an easy piece in order to make it "more pleasant";
3. transfer the gained knowledge from a piece to another;
4. make sure that a comfortable violin hold is in place the whole time;
5. avoiding injuries;

(continues below)

Risks

I don't want to use a traditional way to teach vibrato as I don't feel it will be the way to go with my pupils. I don't need to give the impression that "vibrato" is the ultimate skill which can be developed only through hours and hours of gradually more and more brainy exercises (such the ones on the side from (Yanshinov, 1939, P 3).

Even if these exercises might be extremely effective, the problematic with them is that the visual impact, on any student, can be a little traumatizing. I assume, by experience, it could result in a loss of interest. This is a risk to be avoided during this session.

I will need also to avoid extra stress caused by giving too many instructions all together or jumping from a difficulty to another. I have to leave my students free to experience and understand the pictures without too many interventions from my side.

I am also very aware that applying vibrato to something which is not properly "in tune" will result in a counterproductive practice. Therefore, this skill and this specific lesson can happen only when tonal awareness is in place. In order to help that, I will start my intervention with a simple warm-up scale.

Frustrations can happen when learning new things but it will be fundamental to turn negative experiences into integrating parts of the learning curve. Avoiding negative experiences is not needed, what is more beneficial in this explorative activity is to gain experience.

Wellbeing, body awareness and comfort have to be taken in consideration as well. From learning new things on the violin, it can be easy to develop muscle tension which may influence the end result as well. But it can lead to injuries and leave a bad memory too.

Scales and pieces for the lesson (what, how and why) - transfer

We will start the lesson with a one octave scale, or two octaves, in the first position (A Major). Our focus will be on developing a really stable pitch, that's why I will ask to play each note counting four crotchet beats (crotchet=80 bpm ca.) and repeating each note twice. Firstly, I will ask to play without vibrato. If the scale works fine, in the sense that it is in tune and that feels stable, we will go to the next phase.

Now that the scale is "safe", I will ask to play the scale but keeping the first note without vibrato and the second one with as much vibrato as possible (but without altering the pitch too much). From here we will be able, hopefully, to analyse what to improve by means of reflective feedback. We will play with the pictures to find a personalized way to vibrate, there are many possibilities to do so. At this point, everyone will have a different development. It will be up to me to instruct "how" to develop a specific element but, surely, my pupils will be able to decide autonomously "what" exactly will need to be develop.

A small piece will follow, "A country walk". Firstly, the student will play the piece without any vibrato, in order to get used to the notes of this simple tune.

After that, they can try different vibrato techniques and start adding vibrato on the long sounds, in a second moment also on the crotchets.

If all of this is achieved, I might work more on the "why". Why do we need to vibrate? Is my pupil aware of what is the difference between a still sound and a vibrating one? In this phase, it might be a good idea to ask where is better to add "vibrato" in this small piece.

If we have enough time, I would love to ask my pupil to pick a piece that they are studying now and that according to them needs some vibrato. That will allow us to transfer the knowledge gained on the scale and on the small tune into their actual music.

Aspects to be taken into consideration

In order to develop "vibrato" technique to a new level, I want to work on specific areas such as: A. the way the fingers of the left hand enter in contact with the strings, B. how the pressure of the fingers in the left hand can generate different possible vibrato, C. raise awareness on the left hand thumb: finger that is not actively playing but yet a key point of this technique, D. improving the violin hold (if needed) to help not only the specific technique but also in order to remain "healthy".

Pictures for the lesson

A list of possible pictures for the lesson are listed below:

A. Left hand (focus on the development of the contact point between fingers and the strings)
A1: contact point on the tip of the finger, close to the nail;
A1.1: side view, small contact point is more evident;
A1.2: side view;

A2: contact point on the side of the finger, parallel to the nail;
A2.1: side view;
A2.2: side view;
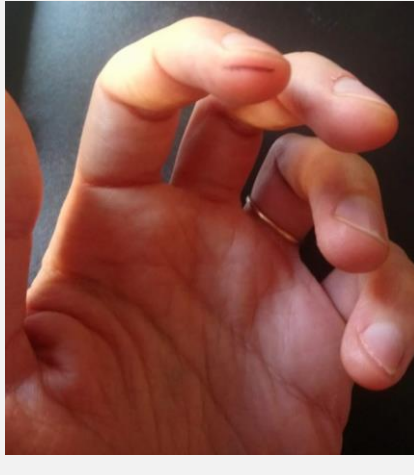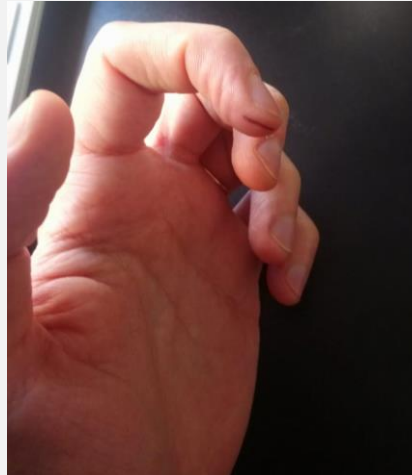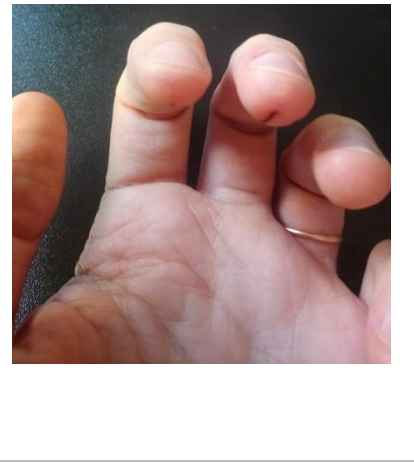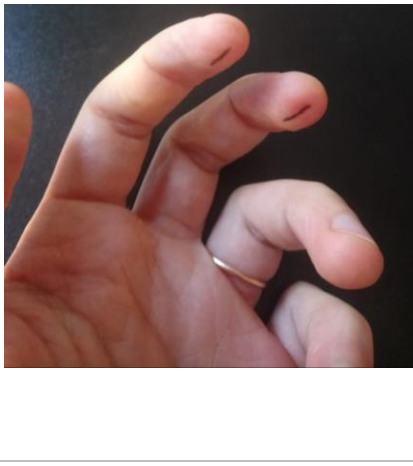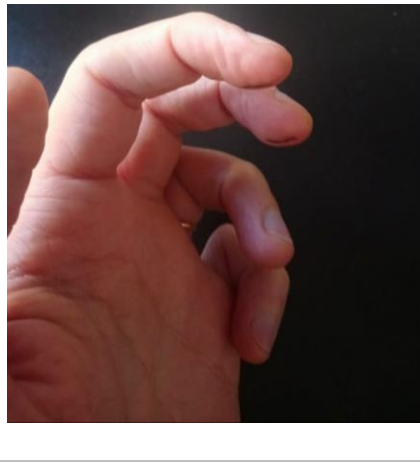
A3: contact point on the flesh, further from the nail;
A3.1: side view;
A3.2: side view;
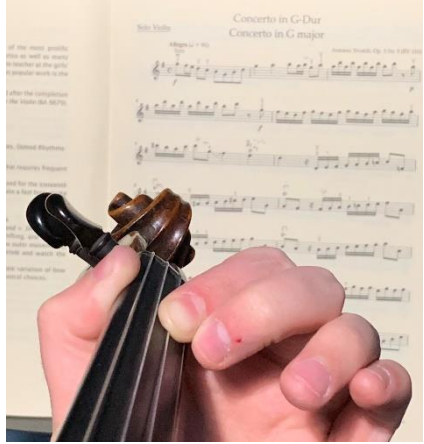
| A1 | A1.1 | A1.2 |

A2	**A2.1**	**A2.2**
A3	**A3.1**	**A3.2**

B. Left hand fingers (focus on developing a different touch):

B1	B2	B3
1 gram of pressure	*Somewhere in the middle (not too little, not too much)*	*100 KG of pressure*

C. Left hand (focus on freeing the thumb):

C1	C2

The thumb is curved

The thumb is straight

D. Violin hold (in order to avoid holding the instrument with the left hand, preventing injuries and freeing the hands):

D1	D2
Aiming down	*Aiming in front of you*

E1

E2

VIBRATO TOO SLOW AND WIDE (no)

NICE VIBRATO (ok!)

CRAZY VIBRATO (no)
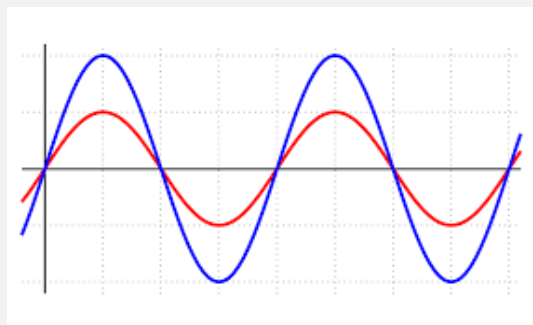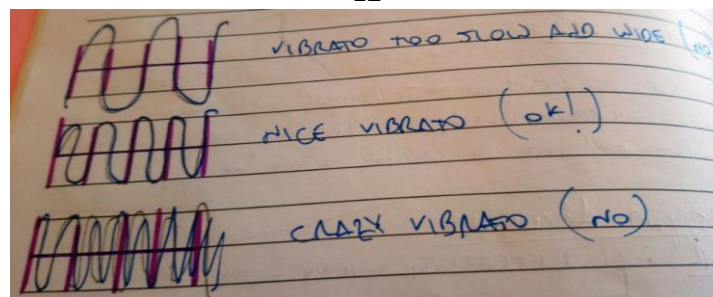
Intervention plan for lesson 2 (focus on shifting positions):

Starting point

Shifting is a difficult technique which requires coordination, pitch awareness and great left-hand relaxation. It can be broken down as a series of many small movements and phases. A way to learn how to shift is to master each and every small detail through the support a many different exercises. Mastering how to shift position is very important in order to expand the repertoire and go further than the first position.

Both my pupils are able to play in different positions, either keeping the same position or shifting up/down. They are able to execute easy shifts from the first up to the third\fourth position. I have a feeling that shifting from a note to another feels a little as an interruption rather than a way to connect two sounds. I will ask them what shifting position means to them at the beginning of the lesson.

Goal(s) of this lesson

The objective is to "feel the distance" between two sounds and connect them, avoiding separations.

6. to raise awareness of different possible shifting techniques;
7. connecting sounds with the left hand;
8. understanding the difference between "portato/portamento" and "glissato/glissando";
9. keeping pitch and rhythm stable while changing position;

Risks

The base of this lesson will be an easy exercise I wrote for this occasion which is in a way inspired from the work of the legendary exercise number 10 from Otakar Sevcik's Op.9 (Sevcik, 1901, P 4).

Exercise 10 from Sevcik is a well-known repertoire for this instance but it can be a little intimidating. As my pupils are not aiming to become professional players, I want to avoid all kind of stress given by playing it at sight. However, I will use it in future at a later stage as it is a wonderful exercise. I am aware that my own

exercise sounds a lot repetitive but what I have experienced already is that repetitions are not necessarily boring if the students see that they are building up in small steps. Anyways, the danger of getting tired or tense from playing these exercises is something I have to avoid during the lesson.

Learning to shift it's really important not only to expand the repertoire but also to develop as a musician. It is generally avoidable to shift as it was a sort of quick "glissato". It can be considered a risk. Anyways, it can give room for relaxation and also open up further development in a second moment.

Tension is a big no go when it comes to change position, that's why I might use visuals to focus on relaxation (left hand in particular).

Having a good violin hold is also a key point of this lesson: if the pupil holds the violin with the support of the left hand, instead of pressing on the chinrest, it will be absolutely impossible to execute any shift. In fact, the shift happens because the left hand is free to release "the neck" of the violin and move up\down while the violin is secured between the chin and shoulder. I will remind this to my students to avoid the risk of not being able to shift due to poor freedom in the left hand.

Exercises and repertoire for the lesson (what, how and why) - transfer

In the beginning of the lesson, I will be asking my pupils whether to play my own Exercise 1 or Exercise 2. They are relatable and starting with the second instead of the first doesn't change nothing.

The two exercises are aiming at connecting two consecutive sounds, which are already slurred together. The idea is to connect them also with the help of the left hand. Shifting is a technique that can make our sound smother, it has not to sound interrupted while shifting in a higher\lower position.

As already discovered in the previous lesson, tonal awareness and stability in pitch is crucial when learning this new challenging element. I will ask my students to play the exercises in the first position, without shifts, in order to get acquainted to the pitch. It will be important to understand the intervals and the patterns of tones\semitones.

After this warm-up, where my pupils will play the exercise without changing position, I will ask them to follow the written fingerings and shift position when indicated. By means of reflective feedback, we will try to understand what to develop and how. At this point I might use some visual instructions to get deeper into this topic.

What I want from my pupils is that be able to play both the exercises in different ways, for example shifting with a "glissato" feel or more like "portato".

I might ask the participants to this intervention to play a piece they are studying now which has some change of position. In this way I aim to see if the transfer happened or not. But I am aware that this topic does require more than a small lesson to be fully deepen. I might ask them to play this piece in the beginning as a sort of warm-up and later at the end of the lesson come back to see if any development happened during this experience.

Aspects to be taken into consideration

There are many possibilities when it comes to shifting up or down in different positions. What I want to develop is the motion of the whole left hand and not only of individual fingers. What we will find later in the pictures are elements that can be discussed during the lesson such as:

- shifting from X to Y or from Y to X keeping the finger on the string;
- shifting by "jumping" from X to Y or vice versa;
- pressure of the fingers in the left hand;
- role of the left-hand thumb when shifting;

Pictures for the lesson

A list of possible pictures for the lesson are listed below:

A. Left hand (focus on different shifting techniques)
A1: pressing on the string all the way from X to Y;
A1.1: trying to quickly jump from X to Y;
A1.2: doing a combination, with the help of a "passing note";
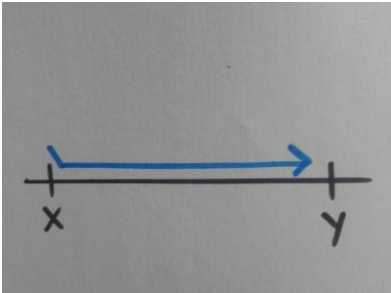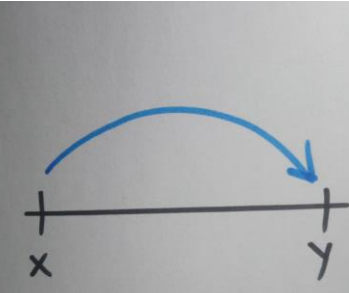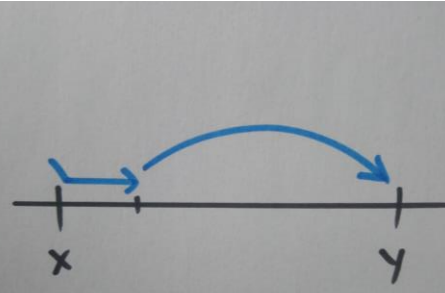
A2: change of position in three levels, phase 1 (starting point);
A2.1: change of position in three levels, phase 2 (the thumb advance first);
A2.2: change of position in three levels, phase 3 (arrival point);

A3: glissato;
A4 portamento;
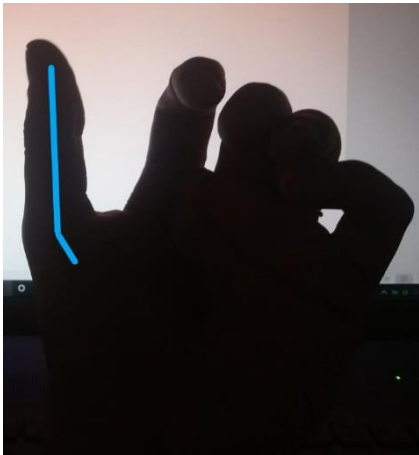
A1	A1.1	A1.2
A2	**A2.1**	**A2.2**
A3		**A4**

B. Left-hand fingers (focus on developing different pressure):

B1	B2	B3
1 gram of pressure	*Somewhere in the middle (not too little, not too much)*	*100 KG of pressure*

C. Left hand (focus on freeing the thumb):

C1	C2
The thumb is curved	*The thumb is straight*
C3	C4

Gap	No gap

D. Violin hold (in order to avoid holding the instrument with the left hand, preventing injuries and freeing the hands):

D1	D2
Aiming down	*Aiming in front of you*

Intervention plan for lesson 3 (focus on phrasing and expressivity):

Starting point

Up to the last intervention, my students have been working on developing complex technical skills which would have required many different inputs in words. For this conclusive lesson, my students and me have been thinking about developing a different "non-motor" aspect.

As Anastasia said, during the end of lesson two, mastering expressive/technical skills doesn't necessarily improve our expression that much. Since expression was something concerning for both of the students, I suggested that "phrasing" should also be taken in consideration during our lessons.

I am not sure what my pupils are picturing in their mind when it comes to build up "musical phrases". Not to be negative, but I'm not sure if it is even a priority for them. I wonder if they are too keen about following what's written on the sheet of music rather than understand why music is written the way it is on paper. I am afraid that phrasing is a complicated thing as most of my students consider it a skill like any other (maybe a reading skill?) rather than something flexible that comes from your own understanding of the music and your inner personality.

A bit like what an actor dramatizes during a play, musicians have to give a rendition of a written sheet of music not only by playing notes but also by bringing on their own character and expression. Singing, in particular, can be really beneficial when it comes to learn about the shape of musical phrases. However, in the past I have tried already to explore this path but I got only unsatisfactory results.

During this intervention I want to see if visuals are able to support learning of non-motor skills.

Goal(s) of this lesson

The objective is to learn about different ways to shape musical phrases, giving space for expression. To do so we will:

10. Find common grounds between words and music, between punctuation and notation in particular;
11. See the sheet music with different eyes, trying to understand where the notes are going and how to express that;
12. **Changing the meaning of the music by turning the dynamics upside-down; no**
13. Adapting our own bowing technique and vibrato to the sentence we want to realize;

Risks

As I already mentioned, singing is probably more suitable for the purpose of this lesson. I want to ask my pupils if they rather prefer to sing a few notes or use some visuals in order to work on phrasing. This is only for the purpose of keeping a safe environment, I would like to follow what my students are more inclined to do rather than pushing them where I would like them to be.

Overcomplicating easy things is something avoidable as well. We will work on phrasing by playing a couple of easy tunes in different ways, hopefully thanks to the help of visuals. But it is not to a problem if visuals have not an impact on my students as anyone has different preferences when it comes to learning styles. Being aware of the fact that visuals in this case are not always a solution but an extra complication, is a way to avoid the risk of getting frustrated.

I hope that making musical phrases more "visual" rather than "sang" could help my pupils in better express themselves.

Also, I want to have a cooperative learning environment to get to know more the point of view of my students rather than simply instruct them repeatedly.

Exercises and repertoire for the lesson (what, how and why) - transfer

The lesson will start with the questions "what is a musical phrase? How you do that? Can you demonstrate how you do that?" in order to get to know more about what my students know already about it.
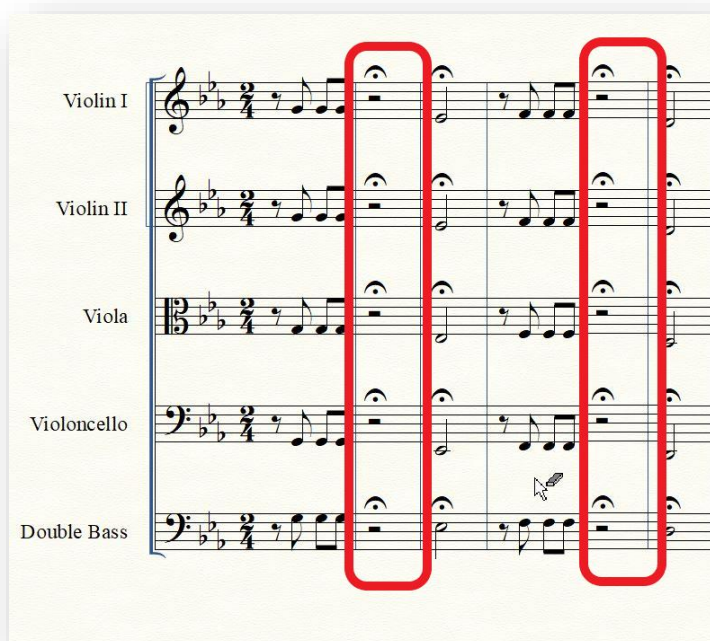
I would like to use visuals but also words to ease the understanding how important is to group notes to give different meaning to the music. To do so, we will continue the lesson and see what happen if we add or forget a comma in a written text. How does it sound if you read a message with\without a comma? Does the message changes?

What if we add/remove a rest to a piece of music? Does the music feel the same with a new rest, even if the notes are the same? Two different starts for the Beethoven symphony number 5 will be played, one is the original and another is an altered version which includes a rest after the notorious three quavers of the beginning (picture on the left). I will ask, after listening at the music, what picture will fit for each fragment of music played (A2 or A2.1).

In a second moment, I will ask to play one of the two piece I will send. They are easy to play with small features such as repetitions, different dynamics and clear four bars structure. I will ask my students to give a different rendition of the pieces by grouping notes instead of playing note-by-note (if they do so).

After this exploration, I would like to let them see the sheet music in a different way. With the help of a picture, I will show how melodies can go and how we can use dynamics to "give more direction". Speaking of "giving direction", in my opinion it can be easily shown with the help of visuals. I will try to demonstrate it during this lesson.

At this point, I need to see if any newly learned trick will be employed to develop the second piece. Will my pupils be able to develop musical ideas and phrasing on a different second piece?

If we will have time, I would like to play a piece by their choice (from the repertoire already learned) and see what can be done in order to do shape some nice musical phrases.

Aspects to be taken into consideration

Visuals for phrases and expression:

- Understanding what happens if we do a small alteration to the music, interpretation or alteration of music;
- Recognizing different moods;
- Understanding trends and recognizing musical phrases (phrasing by visualizing the music sheet in a different way);
- Play different dynamics;

Pictures for the lesson

A list of possible pictures for the lesson are listed below:

A. Interpretation\alteration problematics (?)

| A2 | A2.1 |

B. Phrasing by connecting note-heads:

B1

C. Trends:

C1

C2
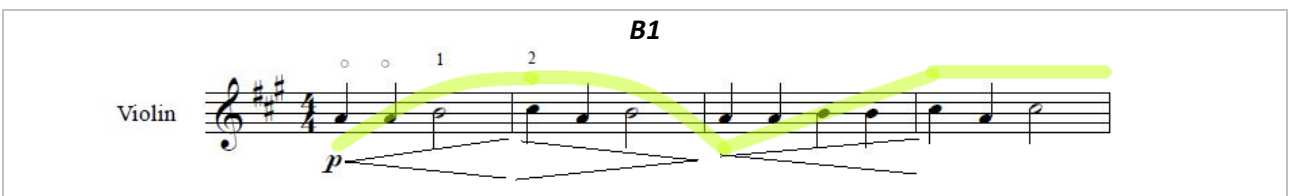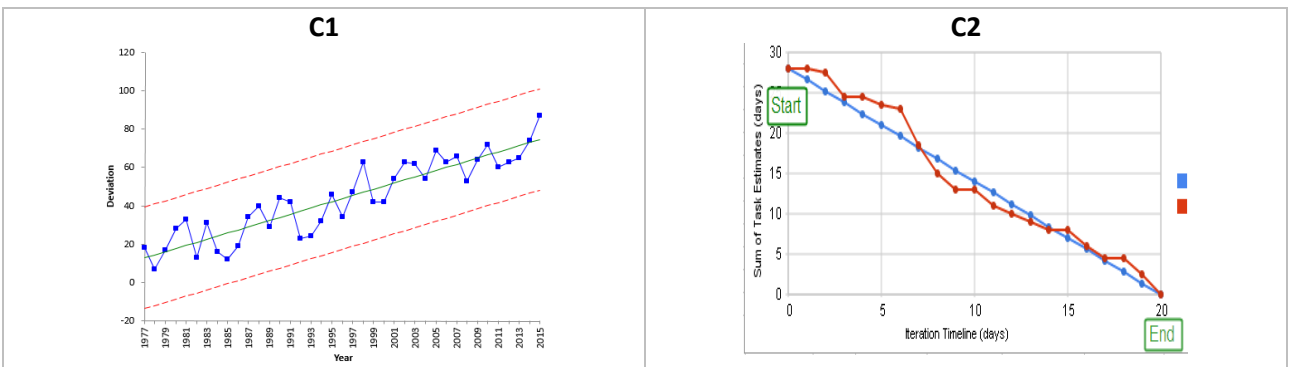
D. Gradient of dynamics:

D1

pp   *p*   *mf*   *f*   *ff*
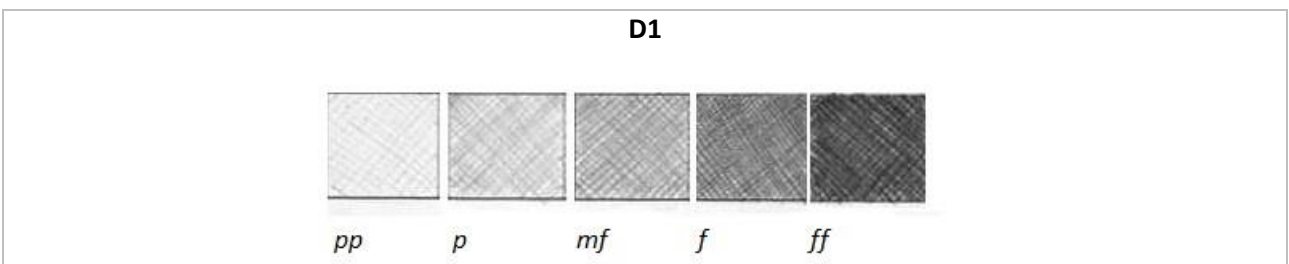
Exercise 2

Shifting position

Mauro Smorto

Exercise

Shifting position

Mauro Smorto

Exercise

Exercise

Shifting position

Mauro Smorto

Exercise

Score

Exercise

Shifting position

Mauro Smorto

Exercise

Exercise

OBSERVATION SHEET - STUDENT

COMMUNICATION AND PERCEPTION

AFTER LESSON 1/2/3, WITH CASE STUDY 1/2

OBSERVER

Name of the observer	

DIRECT\INDIRECT COMMUNICATION (CHECK THE BOX YOU FIND THE MOST RELEVANT):

Statement	Answers						Extra comments (optional)
1. The student is speaking...	...slowly/calmly	☐	...at an average speed	☐	...quickly/nervously	☐	
2. The posture of the student...	...communicates personal distance	☐	...communicates openness	☐	...communicates confidence	☐	(NOT TAKEN INTO ACCOUNT ANYMORE)
3. The voice of the student...	...is regularly enthusiastic and energetic	☐	...remains mostly the same	☐	...often sounds disinterested	☐	

VISUAL INSTRUCTIONS (CHECK THE BOX YOU FIND THE MOST RELEVANT):

Statement	Answers						Extra comments (optional)
4. In order to understand the given visual instructions, the student is asking...	...many questions	☐	...an average amount of questions	☐	...little or no questions	☐	
5. The student explores the given visual instructions by himself...	...often	☐	...sometimes	☐	...not so often/never	☐	
6. The student has a different interpretation of the given visual instructions...	...often	☐	...sometimes	☐	...not so often/never	☐	
7. Is the transfer happening? Does the student apply to different pieces what learned thanks to the use of visual instructions?	...often	☐	...sometimes	☐	...not so often/never	☐	

(For example: on a piece it has been developed the articulation of an upbeat and the pupil plays with similar intentions the upbeat on a different piece)						
8. Visual instructions can trigger logical thinking…	…often	☐	…sometimes	☐	…not so often/never	☐
9. Visual instructions, in this session, have been a great support for the student…	…often	☐	…sometimes	☐	…not so often/never	☐
10. Visual instructions, during this lesson have been shared to… *(multiple choice is possible)*	…**show how the student can do things** *(one or more ways to do something were shown in pictures)*	☐	…**compare things that the student can later do in a different way** *(pictures comparing two or more different things)*	☐	…**explain to the student what the teacher meant** *(the teacher was explaining something and pictures were the reflection of his thinking)*	☐
	…**keep the student focused** *(in case of a repetitive tasks, pictures helped to* **keep the** concentration*)*	☐	…**define what had to be developed by the student** *(to show what was the task and not the "how to")*	☐	…**to show emotions or feelings that the student could express while playing** *(pictures were not aiming at technical outcomes but more about the development of emotions\feelings and the* **psychological part** *of violin playing)*	☐

EXTRA REMARKS

Please, add here any extra remarks

OBSERVATION SHEET - TEACHER

COMMUNICATION, INSTRUCTIONS AND BEHAVIOUR

AFTER LESSON 1/2/3, WITH CASE STUDY 1/2

OBSERVER

Name of the observer	

DIRECT\INDIRECT COMMUNICATION (CHECK THE BOX YOU FIND THE MOST RELEVANT):

Statement	Answers						Extra comments (optional)
1. Generally, the teacher is giving…	…a few or no instructions	☐	…an average amount of instructions	☐	…many instructions	☐	
2. Through conversation, the teacher establishes with the student…	…an informal and relaxed atmosphere	☐	…a good/safe working atmosphere	☐	…a negative atmosphere	☐	
~~3. The posture of the teacher…~~	~~…communicates personal distance~~	☐	~~…communicates openness~~	☐	~~…communicates superiority~~	☐	(NOT TAKEN INTO ACCOUNT)
4. The voice of the teacher…	…regularly is enthusiastic and energetic	☐	…remains mostly the same	☐	…often sounds disinterested	☐	
5. Teaching style can be described as…	…student led	☐	…collaborative learning	☐	…teacher led	☐	

ABOUT THE VISUAL INSTRUCTIONS: THE TEACHER…

Statement	Yes	No	Extra comments (optional)
6. …demonstrates or tells what to do with given visual instructions	☐	☐	
7. …discusses the visual instruction with the student to see how it is perceived	☐	☐	
8. …asks the student for his or her interpretation of the visual instruction	☐	☐	

	...verbal instructions (verbal explanations)	...practical demonstrations (teacher plays and demonstrates)	...embodiment (related to Dalcroze approach: "connecting music, movement, mind, and body")	...metaphors or comparisons (verbal instructions that include the use of metaphors or comparisons, for example: "...this excerpt sounds like a waterfall" or "...this excerpt is a waterfall")	...others (please add them below)
9. ...stimulates the student in creating their own visual instruction	☐		☐		
10. ...draws on the spot the visual instructions	☐		☐		
11. ...often uses other forms of instruction such as... (multiple choice allowed)	☐	☐	☐	☐	

OTHER ASPECTS TAKEN INTO ACCOUNT: DURING THE LESSON, THE TEACHER...

Statement	Yes	No	Partially	Extra comments (optional)
12. ...uses constructive feedback	☐	☐	☐	
13. ...sets many goals at the same time	☐	☐	☐	
14. ...interrupts the student while playing	☐	☐	☐	
15. ...gives students the time to play, think and respond	☐	☐	☐	
16. ...asks the student to replay many times the same stuff	☐	☐	☐	
17. ...sets goals in a clear way for the upcoming lesson	☐	☐	☐	
18. ...is following a clear lesson plan	☐	☐	☐	
19. ...is providing clear instructions	☐	☐	☐	

EXTRA REMARKS

Please, add here any extra remarks

Links to video recorded lessons:

Lesson-1, Case study 1 https://www.youtube.com/watch?v=FjD96sRVxd8

Lesson-1, Case study 2 https://www.youtube.com/watch?v=r_db8igIOTY

Lesson-2, Case study 1 https://www.youtube.com/watch?v=y0aAg80l9s0

Lesson-2, Case study 2 https://www.youtube.com/watch?v=3TD2vCzOSlI

Lesson-3, Case study 1 https://www.youtube.com/watch?v=Oxe3c6uObSM

Lesson-3, Case study 2 https://www.youtube.com/watch?v=N8O23hOwC7s

Links to all the observation sheets:

Observations of David Pedreira Matamoros
https://drive.google.com/open?id=15qXCob46MT_EgnFFyIY0l7sP2oGWgFuR

Observations of Medina Mercè Estelrich
https://drive.google.com/open?id=1kM3t1KvuUNRlNdP16Ko6zpJliaEeKEh1

Observations of Samuele Riva

https://drive.google.com/open?id=1teZaQGb9CY4slKdSWPwOCOZlt1AX-5c_

Links to audio excerpts for lesson 2:

https://drive.google.com/open?id=1qR7ZmJMZr1T9tmsoalahHW3Yho6kF9na

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