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## DEVELOPING TOOLS FOR SUPPORTING MUSIC INSTRUMENT STUDIES: MODEL FOR REFLECTION

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### Abstract

Contemporary pedagogies of musical instruments stress the importance of active and reflective learning (Brown 2008, Scott 2011). However, a model for supporting students' reflection in this context is currently missing. The aim of the study is to develop and validate a model for supporting music students' reflection processes in the context of music instrument studies. The model identifies the processes of reflection and specifies, based on the challenges of each process, how to support reflection in this context. Expert validation of the model was carried out through focus group interviews with twelve instrument teachers in three different institutes in Estonia. Findings suggest that with minor modifications, the model, developed based on the findings of supporting reflection in various contexts of higher education, is suitable for the context of music instrument studies.

*Keywords:* Music education, active learning, reflection; guided reflection, instrument studies

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## **1. Introduction**

The usage of active learning methods is an inseparable part of contemporary education, including music education (e.g. Brown, 2008; Kährik, Leijen, & Kivestu, 2012; Scott, 2010; 2011). When using active learning methods “the pupils will employ an analytical approach to answer questions and solve problems”. Through these processes the learners broaden their existing knowledge and grow into independent musicians who perform as singers, instrumentalists, composers, improvisers and listeners. In line with the increased attention towards student activating learning methods, supporting students’ reflection has also gained somewhat more attention in the music instrument pedagogy (see e.g. Draper, 2007; Okan 2010) in recent years. However, a comprehensive model for supporting students’ reflection in this context is currently missing. For this reason, the aim of the current study is to develop a model for supporting students’ reflection in music instrument pedagogy context based on the literature on supporting students’ reflection in other fields, such as teacher training, medical education and dance education. Below we will present the definition of reflection, describe the four general processes of reflection and elaborate on the difficulties students encounter with the different processes. Supporting students in overcoming these difficulties forms the basis of developing the comprehensive model for supporting students’ reflection in the context of tertiary music instrument pedagogy.

### *1.1. Definition and processes of reflection*

Reflection is defined as a cognitive process (e.g., Benammar, 2004; Dewey, 1933; Mezirow, 1991; Schön, 1983) carried out to learn from experience. Reflection allows the creation of knowledge about one’s own cognition and regulation of that cognition (Simons, 1994). The four general processes of reflection in an educational setting, according to Procee (2006), are describing an experience, evaluating an experience, learning from multiple perspectives, and reflecting on the reflection process. Studies have indicated that the pupils experience several difficulties when employing different processes of reflection (Benammar, 2004; Leijen, Lam, Wildschut, & Simons, 2009a; Wade, 1994).

The general problems observed in connection with students’ reflection is that there is a tendency to make superficial remarks (e.g. there is yet a lot for me to learn, to practice etc.); there are difficulties managing emotional and personal problems (e.g. acknowledgment of the limitations of one’s coordination); there are difficulties expressing one’s thoughts (Leijen et al, 2009a). Concerning the process of describing, the main difficulty that has been recognized is the discrepancy between awareness and action (Argyris & Schon, 1974). In addition, the problem is the inadequate recognition of details related to one’s own as well as

others' experience and difficulties recalling one's previous experience (Leijen et al., 2009a). Concerning the process of evaluation, the main problem is the inadequacy or lack of evaluation criteria. Further problems that have been observed are that the students are expecting the instrument teacher to correct them and are not ready to evaluate themselves; the main focus of concentration are the faults, thus the positive aspects are neglected; it is considered shocking that the conceived plan was not realized in practice; stopping at the describing level (Mountford & Rogers, 1996).

Concerning the process of relating, it has been observed that the teacher's corrections and proposals are considered absolute truth and not called in question; the focus is solely on "correct" performance and finding alternatives is complicated; shame keeps from sharing and suggesting one's own ideas; feedback focuses only on shortcomings (Leijen et al., 2009a). Such problems indicate, on the one hand, the peculiarities of social communication and group dynamics (Mackintosh, 1998; Wade, 1994) and on the other hand, the issues of power and authority (the teacher as an authority) (Leijen et al., 2009a). In case of reflecting on the reflection process, the main obstacle is that reflecting on one's activities, including one's professional identity, on an abstract level, is complicated for many (Procee, 2006).

## *1.2. Supporting students' reflection*

The most common way of supporting students in describing their experiences in educational settings is through written or verbal description (e.g., a reflective journal). However, as students may not have a realistic view of their experiences while describing these, video facilitation can support students in describing their practices (see e.g. Sööt & Leijen, 2012). Experiments with streaming video to support students' reflection have been carried out in teacher education and other professional training programmes using a video-based learning environment called DiViDU (Kulk, Janssen, Gielis, & Scheringa, 2005; Leijen, Lam, Wildschut, Simons, & Admiraal, 2009b; Leijen, Valtna, Leijen, & Pedaste, 2012). In DiViDU teachers can support students in describing their experiences by asking questions to encourage them to choose a focus and think about their practice while observing the video recording, which students have recorded, edited, and uploaded prior to discussion in the learning environment. Leijen et al. (2009b) showed that examining a video recording of their practice aided dance students in developing a more realistic grasp of their activity. In connection with self-analysis in music education, Draper (2007) describes a project conducted in Australia, in which conservatoire students reflected on their compositions and compiled a video podcast where the students explained their work. Fellow students and wider audience had access both to the original material as well as the later material

containing reflection. This research demonstrated that documenting the students' artwork using video contributes efficiently to individual study and supports self-analysis in music education.

Regarding the second reflection process, evaluating an experience, students should trust the validity of their experiences without spending a lot of time worrying about the judgments of others (Dewey, 1933). In order to carry out self-assessment, students need to comprehend evaluation standards and the criteria representing these standards. Liu and Carless (2006) suggest that involvement of students in assessment can help students to develop conceptions of quality approaching those of their teachers. This would help students to process the feedback given by teachers. Leijen et al. (2009b) showed that evaluation tasks in which the students were able to use questions and evaluation criteria provided by the teacher, encouraged students to take a more active role in evaluations. In addition, the evaluation task helped them in being more particular and thorough in their argumentation.

In supporting learning from multiple perspectives, more benefit can be gained from implementing peer feedback activities for the reflection process. While it can be difficult for students to consider teachers' comments critically, they may be more open to questioning the comments given by their fellow students. The organisation and management of peer feedback activities can be supported effectively using web-based ICT tools (see e.g. Van der Pol, 2007). Leijen et al. (2009b) found that video facilitated peer feedback activities as well. Students reported that due to mediation through video, feedback process was emotionally less loaded since they could base their comments and suggestions directly on the material captured on the video. Regarding difficulties associated with sharing one's ideas in a group, a safe environment and trust need to be established in the group to support proactive interaction as was also noted by Leijen et al. (2009b).

In order to support reflection over the reflection process, Procee (2006) suggests applying guiding questions that, besides evaluating the relevance of reflection activities for their learning process, directs students to evaluate the relationship and compatibility between students personal and professional identity.

To sum it up, it can be said that employing video, guiding questions and peer feedback activities enables to support students' reflection. In this study, based on the abovementioned results, a model for supporting students' reflection for the context of tertiary music instrument studies (see section 2.2.) was developed, followed by an expert validation study of the model that was conducted among the music instrument pedagogy experts.

## **2. Research Methods**

### *2.1. Participants*

To validate the model for supporting reflection, four focus group interviews with twelve experts on pedagogies of musical instruments were carried through. A single focus group consisted of three experts. The experts teach a diverse range of musical instruments in different vocational music schools and institutions of higher education in Estonia, eight of them being jazz musicians and four specializing in classical music.

### *2.2. Model for supporting reflection in the context of music instrument studies*

The model distinguishes between reflection phase and meta-reflection phase. Reflection phase consists of three cycles of describing, evaluation and relating activities. Each cycle lasts for three weeks. Following the reflection activities carried out over nine weeks, meta-reflection activities are carried out. Below we will present a short summary of each process and guiding questions developed to support students' reflection in different subphases.

#### *2.2.1. Describing*

To facilitate describing how the students play their instruments, a video is used to enable the student to see him- or herself from an objective point of view, as a bystander. The student's tasks in this stage are as follows:

1. To record a video of the student him- or herself playing the instrument (e.g. a concert, evaluation performance, practice, instrument lesson);
  2. To pick two aspects of one's playing (e.g. playing technique, tone, phrasing, improvisation, artistry etc), one positive and one in need of improving, to concentrate on;
  3. To describe what he or she notices in the video in relation to the chosen aspects.
- When describing, to answer questions: What were you intending to do? What did you do in practice? What were your thoughts? How did you feel?

#### *2.2.2. Evaluation*

It is essential for the students to learn to self-evaluate their activities and musical development and not wait on the teachers' evaluation of their work, progress and level of instrument skills. Evaluation criteria and employing said criteria are necessary to carry out the evaluation. The main problem when evaluating is oftentimes the students' lack of familiarity with the criteria. In the course of the evaluation process the student goes through

with the evaluation on the basis of the criteria provided by the teacher. The student's tasks in this stage are as follows:

1. To compare what he or she has seen in the video and the factual situation described based on said video with the evaluation criteria provided by the teacher;
2. To point out, among other things, the positive aspects;
3. To evaluate where his or her level of instrument skills stands compared to the criteria.

### *2.2.3. Relating*

The student collects feedback on his or her playing in those aspects he or she has specified. For this purpose, he or she poses two questions to the fellow students and teachers. The students will be explained that the primary aim is supporting their fellow students and therefore the students are requested to carefully think the feedback through and present it in a constructive manner. The student's tasks in this stage are as follows:

1. To pose two questions to the fellow students and the teachers about the aspect he or she wishes to have feedback on or recommendations about;
2. To sum up the feedback: whether, for what extent and how can he or she make use of it.

### *2.2.4. Reflecting on the reflection process*

Reflecting on the reflection process is a meta-analysis, a retrospect of the past nine weeks and a look back to the reflection process from a distance. Taking into account all the aspects of the previous period (descriptions based on the videos, self-evaluation of one's playing based on the evaluation criteria provided by the teacher and feedback from the teacher), the student responds to the following questions:

1. Take a look at the six aspects of playing you observed in your description. Did any of them figure significantly more often than others? What could it mean?
2. Were the questions you posed to your fellow students and teachers rather varied or is it possible to highlight any subjects that appear more frequently? What were the aspects of playing (e.g. playing technique, tone, phrasing, improvisation, artistry etc) you most asked to receive feedback on from fellow students and teachers? What could it mean?
3. What are your strong suits as an interpreter and a musician?
4. What are the skills you have to improve, in order to be a better interpreter and musician? What are the skills you have to practice? What do you have to learn?

5. How useful was reflection in the context of instrument study and personal development related to music? What did you learn from the past nine weeks?

### *2.3. Data collection and analysis*

Data was collected with semi-structured focus group interviews. All interview questions focused on the developed reflection support model. Experts received the model and interview questions one week prior to the focus group interviews. All interviews were recorded and fully transcribed. Data was analysed by the lead researcher using a thematic analysis (Ryan & Bernard, 2003) method. Thematic analysis is an inductive method of analysis containing a series of steps. First, open coding was applied to identify themes and subthemes occurring in the data. Second, the identified themes and subthemes were organized under wider categories. Third, all data was analysed based on the wider categories developed. Results are presented following the identified themes and subthemes.

## **3. Findings**

Below we will describe the main themes and subthemes identified from focus group interview.

### *3.1. The experts' earlier experience with filming students*

All of the interviewees had previous experience with filming students. Video is mostly used to tape the students' exams, evaluations and concerts; using video in everyday study sessions is not common. More common than video is using audio-recording in study process and it is considered even better for monitoring certain things, video might distract and shift the attention from the audible to the visual. However, in general, it was thought that a video recording gives more different information to reflect on than audio, thus enabling to follow the performance as a whole and to pay attention to things that the performer cannot follow in real time.

### *3.2. The experts' opinions on the situations and content of video recording*

All of the respondents found that the potential situations for video recording, such as an instrument lesson, independent practice and a concert, are very different. The stressful situation associated with public performance might influence the performance in such a way that many of the player's skills are not realized and, as a result, something that otherwise is performed well when playing independently might turn out less than adequate in a concert situation because of the pressure and stage fright. It was mentioned that playing in front of a

camera is already basically equal to performing. However, two members of two different groups of experts predicted that if a student gets used to playing in front of a camera and views it as a natural part of practicing their instrument, the fear of performing in front of a camera and the pressure accompanying it becomes less, until, at one point, it is not a distraction anymore.

The experts agreed mostly unanimously that when employing this model it would be beneficial to let the students film themselves in different situations. It was proposed that the two first instances of recording might be playing alone in a classroom; the third time would be a live recording. The latter was considered very important by all experts, since the student could evaluate his or her performance and him- or herself as an interpreter as a whole. A concert is a situation where the students' real level as a musician and an interpreter is realized, adding an extra aspect of artistry that lacks in other situations.

### *3.3. The experts' opinion on the aspects chosen in the describing phase*

There was no consensus on the number of aspects available for choosing for the students. Some of the experts considered the task to be definite and clear and two aspects to be sufficient to focus on. However, a lot of the teachers believed two aspects to be too few. A number of experts did not deem it necessary to limit or specify the number of aspects at choice, because the student should not leave all the possible observations he or she makes un-noted. One of the teachers proposed that there could be two major aspects, the rest could just be noted down. In general, the experts did not recommend determining the number of aspects, but rather leave it open. Only one expert claimed that too many aspects would be incomprehensible for the student and thus the analysis would merely be superficial. When leaving the number of aspects unlimited, it might happen that the student will tend to see too much negative in him- or herself.

A great number of respondents considered it important that during the employment of the whole model, a certain aspect or fulfilling a certain task will be monitored - at first, the way the student deals with the aspect independently, and in the end, its realization in a concert situation. One of the teachers thought that in order to achieve a more adequate result, the student might have to pay attention to one specific aspect for several times, but at the same time he or she specified that it really depends on the aspect chosen, because it is not necessary to concentrate on one that is insignificant and easily fixed, whereas some others require long-time dedication. The second group came to a conclusion that the period of three weeks is not enough time to work on an aspect that's more fundamental and sophisticated.



The experts found that it is important to highlight both negative and positive aspects. There are students who cannot cope with criticism and those who are unable to find anything positive about their skills with the instrument. According to the teachers' experience, the students have difficulties noticing positive aspects; they tend to be overly self-critical and perceive only their shortcomings. Therefore, adequate guidance was deemed important. When on the topic of possible number of aspects, one of teachers pointed out that at least the positive aspects that do not have to be separately dealt with, could be listed without limits. The teachers of classical music all agreed that specialty teachers should give the students concrete guidance on choosing the aspects and determine the problems in need of attention themselves, because the teacher is the one giving the student a notion of an ideal outcome.

#### *3.4. The experts' opinion on the questions guiding describing*

The respondents were unanimously in agreement that the questions proposed in the model are definite and guide the student to in-depth self-analysis. It was pointed out that the task of describing is in itself very helpful, because verbalizing is usually done solely by the teachers. However, one of the experts believes that the question "What were your thoughts?" might initially pose difficulties, because the young musician might not be aware what they are thinking while doing something. This holds especially true when performing improvisational music, since in the moment of improvisation the ability to observe oneself from the sidelines is temporarily lost. Therefore, the abovementioned question might shed light on very interesting things.

The task of describing one's feelings was considered important as well. One of the experts mentioned that when performing at a concert the emotional factors have a role to play, and that students experience public performance differently. Therefore, a student's capability to analyse their concert performance might diverge greatly from their ability to analyse themselves when playing alone in a classroom. In other words, while a student can rationally manage the process of practice, they can, however, lack the same competence when analysing a concert situation due to being notably influenced by some factors manifesting at a concert. In addition, one of the experts brought to attention that the questions "What were your thoughts?" and "How did you feel?" should be worded more clearly and it to be specified whether the questions mean what the student is thinking while performing or what is thought and felt when watching the video later on. One of the groups pointed out that the instructions should definitely specify the duration of the video clip, the suggested maximum duration being 10-15 minutes. The teachers of classical music thought that the student should undoubtedly lay down the desired goals. The objective would have to

be established prior to recording, for the student to have a clear notion of what to do. In order to better integrate the reflection model with the field of study and everyday studies the student could practise the repertoire that is focused on in the main instrument classes.

### *3.5. The experts' thoughts and comments on the evaluation phase*

#### *3.5.1. The experts' opinions on compiling the evaluation criteria*

Phrasing the evaluation criteria seemed to be the most problematic issue. Experts from two groups found that the evaluation criteria in music education have recently become clearer, due to the teachers being compelled to take them up. Also, phrasing the criteria should not be an issue for any of the teachers, since a teacher has a more or less intuitive and a more or less verbalized vision of the desired result.

Nevertheless, it was acknowledged that subjectivity in music education and evaluation is unavoidable. The interviewees found the notion of precise evaluation of everything quite disputable. It was thought that the artistic aspects are exceptionally challenging, if not even impossible to be phrased explicitly. Yet the technical aspects often lend themselves to be defined very much in detail. Likewise, it was asserted that the evaluation criteria should be tailored to every pupil individually and have to be grounded on every pupil's abilities and level, hence the criteria are not objective in the general sense. Moreover, many of the experts held that the evaluation criteria are generally known to the students as they are a frequent topic of discussion in instrument lessons. During independent practice the student relies on the criteria set by the teacher. The experts of one of the groups believed that the students are likely to already rely on some kind of criteria when choosing the aspects.

One of the teachers thought that the evaluation criteria are more likely to hinder the student. The student strives to meet the criteria in any way possible and might not notice anything else outside of these frames. Consequently, the teacher is not in favour of the students receiving evaluation criteria from the teachers. The teacher's suggestion was to give the student a task to record a video, let him or her find two aspects and describe them. Evaluation criteria determined by a teacher would establish an unnecessary control mechanism.

The teachers of classical music considered laying down the evaluation criteria to be a potential problem, as it is complicated to define the so-called ideal situation, ideal level. Therefore, it would be conceivable to evaluate the performance in every phase in comparison to earlier ones and check for improvement. Nevertheless, it was admitted that, as judges at a

contest, the teachers themselves have been compelled to work out certain parameters to use as a basis for evaluation.

### *3.5.2. The experts' opinions on the students' capability to evaluate their playing based on the evaluation criteria*

In general, the teachers considered the students capable of evaluating their own playing based on the criteria determined by the teachers. One of the teachers thought that even if the students fail to self-evaluate on the first try, the skill will improve when practised. A teacher of another experts group often lets the students analyse their thoughts, feelings, motor skills etc. in the class, and, as a result, has found that the students are able to and will learn to analyse themselves through adequate practice. Likewise, it was noted that in any case, the students have throughout their instrument studies relied on some kind of evaluation criteria.

### *3.6. The experts' thoughts and comments on the relating process*

The teacher considered giving feedback very beneficial. All of the respondents agreed that employing the model will not be impeded by the lack of fellow students, since feedback does not necessarily have to be exclusively from players or teachers of the same instrument. Moreover, a wider circle of people is preferable. It is especially suitable for jazz and rhythm music studies, in which case the study emphasis in university is rather on style-based sound than playing the instrument.

It was mentioned that feedback on technical or instrument-specific aspects should be asked from players of the same instrument; feedback on general musical and artistic aspects is expected to come from a wider circle of people. In two of the groups the relative importance of style was brought up: a jazz musician should request feedback from another jazz musician and an interpreter of classical music should ask his or her counterpart.

Two groups raised the subject of personal relationships between the students, and the possible bias arising from these, being potentially a problem when giving feedback. On the other hand, writing under one's own name compels to constructive. The teachers of classical music proposed that fellow students could previously be acquainted with the evaluation criteria provided by the teacher in the earlier phase.

Suggestions included determining the optimal number of sources for feedback, so that a student's workload would not be overly taxing. It was also suggested to pay attention to web support, as to avoid a situation of "someone running around the school carrying the papers".

### *3.7. The experts' opinion on the time planned to carry out the describing, evaluation and relating processes of the reflection model*

Again the teachers found it challenging to separate the purpose of improving the reflection skills from the purpose of improving instrument skills. Generally, it was thought that three weeks is a suitable period to carry out the phases of describing, evaluation and relating. A shorter period would cause rushing, a longer one would weaken the focus. The experts pointed out that three weeks might turn out to be too short a time for developing a number of chosen aspects, since not every aspect might improve in this time frame. For improving analytical skills, on the other hand, the proposed period might be enough.

Two of the groups pointed out that it would be important to make a chronological comparison of changes in instrument playing skills during the employment of the model, that is, nine weeks. One of the expert groups was of the opinion that the time required depends on whether the model is employed as a side activity or is considered a part of specialty studies. Every following phase of describing could be more complex than the one before.

### *3.8. The experts' opinions on the questions suggested in the phase of reflecting on the reflection process*

The questions suggested for reflecting on the reflection process were considered generally appropriate and sufficient. One of the teachers held that the questions about the process direct the student to analyse him- or herself in the context of playing the instrument, yet the object of the study is the ability of reflection and its improvement. The teacher proposed to add a question: "How did my ability to analyse and evaluate myself change?". Another expert proposed to add a question on how the employment of the model affected the student as a person, as an individual and how did the feedback from fellow students and teachers affect the student, whether emotionally or constructively. One of the teachers believed that in order to the ability to analyse lead to faster improvement in one's specialty, the students should be directed to plan their further development on the basis of reflection, that is, to always explicitly formulate a plan of action.

### *3.9. The experts' opinions on possible hindering factors in employing the model*

The interviewees said on several occasions that to employ the model efficiently, there has to be a guarantee of convenient employment and of a well thought out and supported system. Primarily this includes the availability of required quality video recording technology and the existence of a web-based study environment. The students' and teachers' reluctance was brought up as a potentially inhibiting factor. It was mentioned that for

students who are not very motivated, the model can present simply a bothersome additional obligation. One of the teachers thought that personal qualities might be hindrance for some students, since it is not equally easy for everyone to analyse and look at themselves objectively. Also, the relationship with the teachers as well as with other students can influence participation. In addition, it is important for the students in relating phase to phrase their questions in such a way the answers could be beneficial.

#### **4. Conclusions**

In the current study a model for supporting music students' reflection processes in the context of tertiary music instrument studies was developed and validated by twelve music instrument studies experts. The model was designed to facilitate four general processes of reflection (Procee, 2006): describing, evaluation, relating and reflecting on reflection process. The main principles of the facilitation are: utilizing video recordings, asking teachers to prepare guiding questions (including evaluation criteria) and design peer feedback activities to support different processes of reflection. Below we will summaries the main findings from the expert validation.

The specialty teachers view the reflection model primarily as a means to improve the students' instrument playing skills. The experts suggest using various situations when employing the model, whereby at least one of them should be a public performance. The duration of the video should be determined (10-15 minutes), in order not to put too much pressure upon the ones giving feedback. Consideration the varying significance of possible aspects to be chosen, their number should not be strictly limited. Concerning the analysis of one's professional development, the student could concentrate on one aspect for several weeks and be able to track the changes.

As anticipated, there are certain differences between the music instrument studies of different music styles. The classical music teachers who partook in the interview, are on the opinion that the specialty teachers should give the students concrete guidance on choosing the aspects and determine the problems in need of attention themselves, because the teacher is the one giving the student a notion of an ideal outcome, naming the problems that have to be dealt with and steers the development related to playing the instrument. No such issue arose among the jazz musicians, since early on, jazz students are required to find an individual approach and sound, and the general criteria which the students keep in mind, do not originate solely from their specialty teachers but from the scene in general.

Similarly, to earlier studies (Leijen et al, 2009a; Mountford & Rogers, 1996), all of the expert teachers found that, among other thing, it is essential to guide to students to notice

and become aware of their positive qualities as an interpreter and a musician, since the students tend to be overly critical of themselves.

As the earlier studies have shown (Leijen et al., 2009a), one of the problematic issues is how the teachers phrase the evaluation criteria. As a result of the study, it turned out that in the context of music the primary cause is the complexity of objectively evaluating the artistic aspects. When establishing evaluation criteria for playing technique, there are no such problems. Also, an opinion was voiced, that there is a possibility that concrete, or strictly defined evaluation criteria might hinder the student. The student could request feedback from all of the fellow students and teachers, not only from the players of the same instrument, with the exception of a case of a very specific aspect related to the instrument.

The suggested time frame was assessed to be suitable for employing the model. On several occasions the interviewees pointed out that in order to the model to be efficient, there has to be a guarantee of convenient employment and of a well thought out and supported system. This primarily includes the availability of required quality video recording technology and the existence of a web-based study environment. For a good cooperation with the specialty teachers and to motivate the students, it should be connected to specialty studies, that is, to be part of studying the main instrument.

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