



# Reflective Practice

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## The value of reflective journaling with advanced piano students

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### ABSTRACT

Benefits to using a reflective journal include developing critical awareness and new perspective, problem-solving skills, and independent learning skills. The training of advanced piano students could be enhanced by the addition of journals to assist with their piano practice, specifically when learning new repertoire. Using the model by Plack and colleagues for developing and assessing reflection in reflective journal entries, we examined the journal entries of 18 advanced piano students to explore the development of reflection over a period of four weeks. Results suggest that reflectively trained piano students develop more critical reflection compared to a control group. Reflectively trained students perceive the same benefits to journaling as their counterparts in other disciplines. The most frequently referenced reflective elements include listing practice strategies and expressing feelings about the learning process. The reflective training model used in this study can be implemented by piano teachers and piano students.

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### Context

The reflective journal is a means through which reflection and reflective learning can be explored and through writing, there are benefits to be gained. Thorpe (2004, p. 328) defined the reflective journal as ‘written documents that students create as they think about various concepts, events, or interactions over a period of time for the purposes of gaining insights into self-awareness and learning’. For Plack, Driscoll, Blissett, McKenna, and Plack (2005), the reflective journal allows for an awareness of feelings and thoughts based upon experience. Benefits to individuals who engage in reflection through use of the reflective journal include: problem-solving and a transformation of beliefs (Cranton, 2006; Mezirow, 1990, 1991), encouraging authority based on experimentation (Schön, 1983) and encouraging development of independent learning skills (Schön, 1983).

Schön (1983, 1987) explored to what extent the reflective process played a role in professional training. He considered reflection to be a process which divided into smaller processes (1983, p. 50). Schön described the first process as *reflection-in-action*, in which an individual pauses to consider ‘some puzzling, or troubling phenomena’ (1983, p. 50).

*Reflection-in-action* is the necessary process through which professionals deal with situations that can cause them 'uncertainty, instability, uniqueness, and value conflict' (1983, p. 50). These 'in-action' thoughts occur in the midst of a performance. Schön (1983, p. 55) explained how jazz musicians *reflect-in-action* because they are able to 'feel the direction of the music that is developing, make sense of it, and adjust their performance to the new sense they have made'. A second reflective process, *reflection-on-action*, means that an individual is thinking about an experience either after or during the activity, depending on the context. This process is specific to what the individual already knows about their situation. Killion and Todnem (1991) added a third component of reflection, *reflection-for-action*, which is the desired outcome of the previous types of reflection. It has to do with planning for future experiences, whereas the previous types deal with the past and present. When an individual reflects-for-action, they are creating meaning and gaining new insights. The new meaning and insights are context-specific, that is to say that these emerge from related past experiences. *Reflection-for-action* 'elevates the work [of the individual]' (Killion & Todnem, 1991, p. 16) because it involves future planning.

Mezirow (1990, 1991) and Cranton (2006) suggested three more reflective processes (or elements) that can transform one's beliefs: *content*, *process* and *premise*. According to Mezirow (1990, p. 1), the individual's perception of a situation is framed by 'habits of expectation that constitute [one's] frame of reference, that is, a set of assumptions that structure the way [one can] interpret experiences'. When an individual transforms their beliefs, they become critically reflective and gain a new perspective on a situation. In order to properly reflect and not simply draw on prior knowledge, one has to make connections between ideas. Cranton (2006, p. 33) maintained that 'critical reflection is central to transformative learning'. *Content*, *process* and *premise* reflection constitute separate reflective elements. *Content reflection* 'is an examination of the content or description of a problem'; *process reflection* 'involves checking on the problem-solving strategies that are being used' (Cranton, 2006, p. 34). *Premise reflection* takes place when the problem itself is questioned.

Boud, Keogh, and Walker (1985) and Boud (2001) expanded on the reflective process of Schön by adding the processes of *returning-to-experience*, *attending-to-feelings* and *re-evaluating the experience*, all of which take place immediately after an experience occurs. These processes of reflection are meant to help learners cope with new information. In *returning-to-experience*, an individual makes observations about an experience that has previously taken place. In *attending-to-feelings*, an individual addresses feelings. In *re-evaluating-the-experience*, an individual makes connections between the experience and other ideas, such as approaches that could be implemented next time.

Jarvis, Holford, and Griffin (2003) categorised responses to learning as being *nonreflective*, *reflective* or *critically reflective* based upon the individual's expressed desire to learn from their experiences and plan for the future. One can choose how to respond to the experience. When an individual responds to an experience, they are conducting experimental learning because they are incorporating theories into practice. Through reflection, an individual becomes a researcher in the practice context. In the *nonreflective* response, an individual 'accepts a situation within which an experience occurs'. In the *reflective* response, an individual begins to become critical. This means that an individual 'thinks about the situation and then decides to accept or seek to change the situation' (Jarvis et al., 2003, p. 61). The *critically reflective* response expresses a change of perspective.

Reflective journal procedures are most common in education (Kolar & Dickson, 2002; Watson, 2010) and health sciences research (Hutchinson & Allen, 1997; Kember, 1999; Knowles, Gilbourne, Borrie, & Nevill, 2010; Plack et al., 2005; Scanlan & Chernomas, 1997; Thorpe, 2004; Wong et al., 1997). Most procedures include reflective journaling as part of a larger reflective training (Hutchinson & Allen, 1997; Watson, 2010; Wong et al., 1997) though some are journal-specific (Kember, 1999; Kolar & Dickson, 2002; Knowles et al., 2010; Plack et al., 2005; Scanlan & Chernomas, 1997; Thorpe, 2004). Many procedures are in the format of course lectures (Kember, 1999; Knowles et al., 2010; Kolar & Dickson, 2002; Scanlan & Chernomas, 1997; Thorpe, 2004; Watson, 2010; Wong et al., 1997). Some include a large number of participants (Thorpe, 2004; Wong et al., 1997), while others use a smaller sample (Knowles et al., 2010; Plack et al., 2005; Watson, 2010) or are unspecified (Kember, 1999; Kolar & Dickson, 2002). In some instances, journal content is analysed by a blind panel of specialists in the field (Kember, 1999), by the researcher (Thorpe, 2004; Watson, 2010) or research team (Knowles et al., 2010; Kolar & Dickson, 2002; Plack et al., 2005; Scanlan & Chernomas, 1997; Wong et al., 1997). No literature refers to having a control group.

## Purpose of the study

Reflective journal literature is non-existent in the field of piano study, providing an opportunity to explore its possibilities specifically with a group of advanced piano students who could implement a journal with their practice sessions on their musical instrument. Reflective journal models suggest that a deepness of reflection referred to as critical reflection can be developed in the journal entries of students who follow a reflective journal procedure, giving them a valuable tool to assist with their musical training. Perceived benefits from journal writing include: becoming critically aware of one's own feelings and knowledge so as to gain new perspective, developing problem-solving skills within a learning context and developing independent learning skills. Two questions arise:

- (1) Over a short period of time, can a development in reflective thinking skills be observed in the journal entries of advanced piano students who have undergone reflective training?
- (2) Can advanced piano students who have undergone a reflective training programme perceive the following benefits after using a journal to assist with their practice: development of critical awareness and new perspective, problem-solving skills, and independent learning skills?

We expected, that over time, we would observe a development of reflective thinking skills in the journal entries of students who have received reflective training compared to a control group. Also, we anticipated that advanced piano students trained to use a reflective journal would perceive the benefits of the development of critical awareness and new perspective, problem-solving skills, and independent learning skills.

## Method

In order to measure the reflective depth of the piano students' journal entries, we selected the theoretical framework by Plack and colleagues (2005) because it includes the reflective components discussed earlier. This framework divides journal entries into two principal

levels: (1) words, sentences and paragraphs and (2) the journal itself. Through the lens of level one, students reveal reflective thoughts about activities in the past, present and future (stage-dependent); insights, strategies and beliefs (content-dependent); and re-evaluative judgments and feelings made in hindsight (time-dependent). After reflective elements have been detected in journal entries, the entries themselves can be categorised as either being nonreflective, reflective or critically reflective.

Eighteen advanced piano students participated in this study. The term ‘advanced’ refers to students learning repertoire at the standard of at least grade eight level according to the Royal Conservatory of Music (Toronto). We sorted them randomly into two groups: Reflective training and Control (nine participants per group). At the beginning of the study, we gave all participants the same instructions: choose a new, challenging piece of solo piano repertoire, write about the practice sessions associated with that piece four times a week over a period of four weeks. Sample pieces chosen by the participants included works by J. S. Bach (i.e. *Italian Concerto*, BWV 971), sonatas (i.e. *Sonata No. 26 in E-flat*, op. 81a by Beethoven) and preludes (i.e. *Prelude No. 5 Book 2* by Debussy). We encouraged them to write in English (the language in which they studied at school) on relevant information about their learning. We recommended that participants spend five minutes writing entries. After two weeks, we provided the participants in the Reflective training group with a document titled ‘Guidelines for reflective piano practice’ (see Table 1) which was essentially our adaptation of Plack and colleagues’ (2005) theoretical framework for piano practice. We interpreted their reflective definitions from a pedagogical perspective, creating sample phrases that best fit each term.

The Reflective training participants could use this at their discretion. The Control group was encouraged to continue journaling freely. Participants typed up their journal entries and returned their files. After four weeks, the Reflective training participants completed a follow-up survey. They reported about their perception of benefits to reflective journaling.

## Results and analysis

We ensured that all participant identifiers were removed from the typed journal entries. We imported all journal entries ( $n = 284$ ) and follow-up surveys ( $n = 9$ ) into NVivo 11. We renamed all files to alpha-numeric codenames. We organised all journal entries by group (Reflective training and Control) and study period (Weeks 1–2 and Weeks 3–4).

### Question 1

We coded all journal entries according to the categories in our theoretical framework. Using the ‘Guidelines for reflective piano practice’ document, we created themes to represent each reflective element. We modified the themes to accommodate the text presented in the journal entries. We revisited previously coded journal entries at regular intervals. Next, we created a data set for each folder (Reflective training weeks 1–2; Reflective training weeks 3–4; Control weeks 1–2; Control weeks 3–4). We compared the reflective growth over time between both groups. The most important numbers are the differences between the first two weeks and last two weeks of journaling. The differences are represented in Table 2.

Regarding their learning, the Reflective training group became considerably more reflective at a deeper level over time in comparison to the Control group. The Reflective training

**Table 1.** Summary table of reflective components in piano practice.

Element of reflection	Brief definition	Key phrases
Reflection in action (R-I-A)	Occurs in the midst of an action; on-the-spot decisions	Right now... <ul style="list-style-type: none"> <li>• I am having...</li> <li>• I am noticing...</li> <li>• I am observing...</li> </ul>
Reflection on action (R-O-A)	Occurs after the action has been completed	I just did...
Reflection for action (R-F-A)	Occurs before being faced with the situation; begins to plan for the future	I will...
Content (CON)	Explores the experience from a number of perspectives	My teacher/peer/friend/suggests that I...
Process (PROC)	Describes the strategies used	I can try doing...
Premise (PREM)	Recognises and explores own assumptions, values, beliefs, and biases	I am no longer sure that...
Returns to experience (RETRN)	Describes the experience	It is significant that...
Attends to feelings (ATTEND)	Acknowledges and begins to work with feelings	I was feeling...
Reevaluates (RE-EVAL)	Reappraises the situation vis-à-vis past experiences	This reminds me of; I had not considered...
<i>Category of reflection</i>		
Nonreflection	No evidence of reflection is present	Contains no reflective elements
Reflection	Evidence of reflection is present	Contains the following: <ul style="list-style-type: none"> <li>• Reflection-in-action</li> <li>• Reflection-on-action</li> <li>• Reflection-for-action</li> </ul>
<i>Critical reflection</i>	Evidence of critical reflection is present	A critically reflective journal entry contains the following elements: <ul style="list-style-type: none"> <li>• Premise</li> <li>• Returns to feelings</li> <li>• Attends to feelings</li> <li>• Re-evaluates the experience</li> </ul>

group experienced a growth in: making on-the-spot decisions (R-I-A), future planning (R-F-A), exploring other perspectives (CON), exploring own assumptions (PREM), acknowledging feelings (ATTEND) and reappraising situations (RE-EVAL). Contrastingly, the Control group experienced a decline in: making on-the-spot decisions (R-I-A), completing actions (R-O-A), exploring other perspectives (CON), describing strategies (PROC), describing experiences (RETRN) and acknowledging feelings (ATTEND). Both groups experienced a growth in R-F-A, PREM and RE-EVAL. Overall, the growth in the Reflective training group was significant; six of nine reflective elements increased by at least 10 references. The growth of the Control group in three of nine elements was less impressive. Also, the Control group experienced more significant declines in reflection compared to the Reflective training group. These contrasts between the groups suggest that the Reflective training group not only experienced a more profound reflective growth compared to the Control group, but also experienced significantly less decline.

Recall that a journal entry or entries can be categorised as showing nonreflection, reflection or critical reflection. The most important of these is critical reflection which comprises exploring own assumptions (PREM), describing experiences (RETURN), acknowledging feelings (ATTEND) and re-appraising the situation (RE-EVAL). This implies that an individual explores a problem, revisits the experience where one found the problem, begins to think critically, and may show evidence of modifying any previous biases. While both the Reflective training and Control groups demonstrated evidence of critical reflection in their journal

**Table 2.** Comparison of reflective growth over time.

	1. Stage Dependent			2. Content Dependent			3. Time Dependent		
	1.1. R-I-A	1.2. R-O-A	1.3. R-F-A	2.1. CON	2.2. PROC	2.3. PREM	3.1. RETRN	3.2. ATTEND	3.3. RE-EVAL
Control Weeks 1-2	35	169	25	6	265	43	11	20	44
Control Weeks 3-4	21	130	28	2	192	61	10	18	52
Difference +/- 1-2	-14	-39	3	-4	-73	18	-1	-2	8
Ref. Tr. Weeks 1-2	16	160	61	20	164	64	28	20	51
Ref. Tr. Weeks 3-4	49	145	88	32	129	86	21	54	77
Difference +/- 3-4	33	-15	27	12	-35	22	-7	34	26

Notes: **R-I-A**: makes on-the-spot decisions; **R-O-A**: completed actions; **R-F-A**: future planning; **CON**: explores other perspectives; **PROC**: describes strategies; **PREM**: explores own assumptions; **RETRN**: describes an experience; **ATTEND**: acknowledges feelings; **RE-EVAL**: reappraises the situation.

entries, the Reflective training group developed more of it over time. The Reflective training group developed critical reflection through increased numbers in PREM, ATTEND and RE-EVAL. The Control group showed a moderate growth of critical reflection through increased numbers in PREM and RE-EVAL.

Based on observations from the analysis, the hypothesis that reflectively trained students develop more reflective thinking skills over a period of time compared to a control group is strongly supported.

## Question 2

Students in the Reflective training group completed a follow-up survey after four weeks of journaling. They responded either 'yes' or 'no' when asked if they had perceived the following benefits of reflective training: critical awareness and new perspective, development of problem-solving skills within a learning context, and development of independent learning skills. We gave the students the chance to elaborate on their responses and these are now presented.

### *Critical awareness and new perspective*

Eight out of nine students reported that they perceived the benefit of critical awareness and new perspective. Regarding critical awareness, they reported becoming: more observant (of piece details, mistakes) while practising, critical of their playing, and aware of shortcomings in practice habits. Regarding new perspectives, students reported thinking about their playing in hindsight, experiencing a reduction of frustration from reflecting on their playing, and questioning their practising style in retrospect. One student expressed:

Critical awareness was achieved through the questioning of one's own practising style as well as the content and immediate nature of the critical analysis and questioning ... A new perspective as I began to experience a new way/form of critical practising; this allowed me to draw upon different ways of reacting and approaching a technical/music[al] issue.

A participant who did not report perceiving the benefit of critical awareness and new perspective acknowledged the reflective journal's potential to assist students in this regard:

I often spend time reflecting on my practise sessions and use this time to determine what I should be practising next session. This is what the journal entries also promote. Had I not already been doing this, the journaling would have been an excellent tool to develop critical thinking skills when practising.

Thus, based on the positive responses, the reflective training benefit of critical awareness and new perspective was perceived among most of the reflectively trained students in the study. Perhaps previous reflective experiences have an impact on whether or not participants perceive the same benefits as those who are more recently exposed to reflective journaling.

### ***Development of problem-solving skills within a learning context***

Seven out of nine students reported that they perceived the benefit of developing problem-solving skills within a learning context. Students reported that through the reflective training via the journal, they were able to distinguish specific mistakes and challenges in their learning and were better able to come up with a practice plan to remedy those issues. According to one student:

If there was a section that I wasn't quite comfortable with, I found that I was better able to distinguish what it was that was troubling me. Instead of practising aimlessly and not really knowing where I was going, I was able to be more in tune to what wasn't working for me.

A student who did not report perceiving this benefit as a result of the reflective training did recognise that problem-solving awareness could be inherent to the journaling process:

I often play a run through of my piece to find problems and fix them during practise time. Because I have already developed this habit, the journaling did not aid any further. However, journaling did allow me to reflect on the progress that my problem-solving techniques had during the learning process.

Therefore, this reflective training benefit was perceived among most of the reflectively trained students in the study. While problem-solving skills may be well in place by an advanced stage of learning, the journal helps with evaluating these skills.

### ***Development of independent learning skills***

Eight out of nine students reported that they perceived the benefit of developing independent learning skills. Participants reported learning how to take responsibility for their own progress, becoming their own teacher. This was summarised by this student:

I had a fun time reflecting on my productive practises in the journal. It definitely gave me independent learning skills. I realised the problems and [their] root[s] and I could easily find and solve [them]. I never tried this method and would have thought it is quite troublesome but it is quite interesting telling yourself information, to be your own teacher, and to reflect on your journals responsibly.

The student who did not report perceiving this benefit hypothesised that learning how to practise independently could be an outcome of years of study, taking time to develop:

[...] I have a fair understanding of how to learn pieces and though I don't say I have learned everything I can, I wouldn't say I saw these learning skills improve over the course of the 4 weeks.

Therefore, while most participants reported perceiving this benefit, the perception of growth is unique. Given that eight of the nine participants perceived this benefit and explained the positive impact this benefit has had on their practice experience, it is significant that advanced students thought independent skills were not necessarily inherent to piano study.



In conclusion, the reflective training benefits of critical awareness and new perspective, development of problem-solving skills within a learning context, and development of independent learning skills were perceived by most students in the Reflective training group. Notwithstanding the small sample size ( $n = 9$ ), the students varied in gender, age and year of study, thus being representative of a typical cohort. It is plausible that reflectively trained undergraduate piano students perceive the same benefits to reflective journaling as those in other disciplines.

## Discussion

Reflective journaling is a valuable tool to assist with piano practice of advanced piano students. The concept of reflection was explored as it influenced reflective theories in many types of training, which eventually became reflective models that included a written component. Advanced piano students in this study were either given reflective guidelines or allowed to write journal entries in an unstructured manner. While the reflectively trained students experienced the most profound reflective growth over time as well as perceived benefits to their training, participants in the Control group also reported benefitting from their writing experiences. As one participant in the Control group remarked:

I feel like knowing that I needed to have something to say at the end of my practise forced me to play with more meaning and intention ... Journaling has made me more inquisitive about why I do certain exercises. I would ask myself questions like: What is my goal for today? What would I like to achieve? What exercises will help me achieve my goal? I'm glad that practising has become a more intellectual experience. I think I might try journaling in the future! It has in fact been quite fruitful.

Another contributed:

I enjoyed re-reading the journal entries and seeing my progress. It was also good to see some of the things that I said I would do and then didn't follow through with. I'll catch those on a future practise. I plan to continue with the journaling. I found that it gave me more discipline and made me more goal-oriented in my practises. It was also a good place to vent some frustration and then come back with renewed energy.

It is important to note that, while perceiving a development in inquisitiveness over time was recognised by some participants in the Control group, the Reflective training group became significantly more inquisitive, as shown by profound increases in exploring own assumptions (PREM) and re-appraising situations (RE-EVAL).

## Themes

We noticed that describing strategies (PROC) and acknowledging feelings (ATTEND) were very frequently referenced in both the Reflective training and Control groups. Recall from *Question 1* that the Reflective training group made fewer references to PROC and made more references to ATTEND over time than the Control group. We became curious about the strategies and feelings to which students were making reference. Both PROC and ATTEND will be presented separately.

### **Process reflection**

Students in both the Reflective training and Control groups made many references to PROC, despite an overall decline in numbers over time. The high numbers are likely a result of the students wishing to express how they had practised, beyond simply reporting what they had done. Because of the high frequency, light is shed on the most preferred practice strategies of advanced piano students. This information could be useful for pedagogy researchers, piano teachers and piano students. Below are the top 20 references to PROC

- (1) Slow practice
- (2) Repetition
- (3) Focused on x y z
- (4) Metronome
- (5) Hands-voices separately
- (6) Hands together
- (7) Run-through
- (8) Small sections
- (9) Analysis
- (10) Listening
- (11) Reviewed
- (12) Counting out loud
- (13) Stop and think
- (14) Rhythms
- (15) Wrist-exercises/warm-ups
- (16) Scales
- (17) Timer/3-minute rule
- (18) Goal-setting
- (19) Backwards practice
- (20) Singing

There are a few surprising strategies that constituted the top 20 list. As one can see, 'slow practice' was the most referenced practice strategy. Any reference to 'slow' or its derivatives to this strategy was coded. We acknowledge that perception of 'slow' is unique to the individual. Nonetheless, 'slow' practice is intriguing as the most referenced, given that teachers often need to remind students to practise slowly and with intention (Mach, 2000; Stannard, 2014) because this approach is associated with expert musicians (Pike, 2014). The 'run-through' strategy being high on the list is surprising, given that brand-new pieces are supposedly challenging to sight-read. Some students consistently included a run-through at the beginning of every practice session as a means to discover which sections needed the most attention. While run-throughs can pinpoint problems and challenges, it perhaps suggests that a higher value is placed on problem detection rather than correct integration. The very slight preference to report hands (or voices) separately compared to a hands together approach was initially surprising because, again, the pieces the participants were learning were challenging. Lee (2010) considers both employing hands (or voices) separately and together part of the early stages of learning repertoire.

Likewise, strategies could be unsurprising. For example, the strategy that is labelled 'focused on x y z' refers to any time when a student remarked that they played with an intention about a specific item (e.g. 'I focused on having the fingering in place.'). Because the

'focused' strategy encompasses any practice intention, it is unsurprising that it is high on the list. Also, given the universal usage of the metronome, its high frequency is not surprising.

It is very likely that teachers influenced which strategies the students reported. Nearer the bottom of the list are strategies such as practising in rhythms, practising backwards, setting a timer, and singing, which are not universally recommended as practice strategies. While the reflectively trained students reported perceiving a growth in their independent learning skills over time, this does not separate them from teacher influence. Jardaneh (2007) conducted an extensive literature review of practice strategies recommended by piano teachers and educators. The following 10 strategies provided in a summary (Jardaneh, 2007, pp. 24–25) also appeared in our top 20 list: practise slowly, mental practice, pay attention to (fingerings), practise hands separately, set goals for practising, attend to a problematic area, repetition, begin with exercises, listen to recordings, and sing the melody.

### *Attends to feelings*

There were no speculations about which feelings would be the most frequently reported by the students. The top 20 most frequently reported feelings are listed here:

- (1) Happy
- (2) Frustrated
- (3) Comfortable
- (4) Confident
- (5) Satisfied
- (6) Tired
- (7) Excited
- (8) Encouraged
- (9) Accomplished
- (10) Distracted
- (11) Inspired
- (12) Anxious
- (13) Overwhelmed
- (14) Proud
- (15) Confused
- (16) Determined
- (17) Nervous
- (18) Prepared
- (19) Uninspired
- (20) Focused

According to this list, students most frequently reported feeling happy. The word 'happy' was used generally, combined with synonyms such as 'content' and 'glad'. Perhaps not surprising to some, feeling frustrated was commonly reported as well. Given that the pieces learned for the study were challenging for the students involved, some frustrations would be natural in the initial stages of learning. The feeling of 'tired' scoring within the first half of the list may be indicative of a not-optimal practice routine. Perhaps students are either physically or mentally fatigued from their practice or their everyday lives in general. Students could benefit from a self-assessment about their physical and mental health in order to make

their piano practice more invigorating and enjoyable (Allen, 2007; Duke & Davis, 2006). The feeling of being 'focused' scoring as number 20 on this list is a bit surprising, given that focus is necessary for an effective practice session. If one is not focused, the mind is prone to wander and piano playing becomes a mechanical activity.

While the frequency reports for PROC and ATTEND are very interesting, it is important to mention the role that the unreported strategies and feelings play. Students were never obliged to write about the specific strategies they employed or the feelings they experienced while learning their repertoire. Any information provided was based on their voluntary desire to do so.

## Conclusion

Reflective journaling is a valuable tool that can help with practice sessions of advanced piano students. The concept of reflection was explored as it influenced reflective theories. Advanced piano students in this study were either reflectively trained or allowed to write journal entries in an unstructured manner. The reflectively trained students experienced the most profound reflective growth over time and perceived benefits to their training as demonstrated through their journal entries and follow-up surveys. Participants in the Control group also reported benefitting from their writing experiences. Implications of our study include tools for piano teachers with which to experiment in their studios, and challenges for piano students to become critically aware of how they practise their instrument.

Piano teachers can implement a journal project in their piano studios. They could use the same reflective guidelines used in our study to assist students in their development of reflective thinking skills. As many of the Reflective training participants in our study reported experiencing changes in the ways they approached their practice in the follow-up surveys, the same changes may also be true for piano students of all levels. Reflectivity varies from person to person, but according to our study, having guidelines to develop reflective thinking skills can generally improve the reflective depth of most students. Also, piano teachers can opt to implement unstructured journal assignments in their studios. At the very least, regular journaling can keep students accountable for their practising. As a result, teachers can become more aware of their students' practising habits. The goal of teachers implementing journal assignments in their studios would be to develop students' practice autonomy.

Piano students wishing to challenge themselves with a new approach to practising can consult our study for insights on the writing process. Due to the isolated nature of piano study, students could take advantage of the opportunity to use a reflective journal or an unstructured journal to teach themselves how to practise efficiently, becoming less dependent on their teachers. As the students begin to take ownership of their own ideas, they could become more confident in their abilities, continuing to challenge themselves to learn new repertoire in a shorter period of time as a result of their refined reflective skills. Reflective journaling can be used as much or as little as the student desires. The positive reports of the participants in both the Reflective training and Control groups suggest that journaling was a mostly positive process that provided an opportunity for personal growth.

## **Limitations**

We recognise the following limitations to our research study. First, we noticed that most participants responded very well to the requirement of writing 16 journal entries over four weeks, because only students fond of writing initially responded to the invitation to participate. Human willingness is impossible to control in qualitative research. Second, we provided participants with reflective training guidelines instead of a larger reflective training programme. This decision was based on feasibility. Nonetheless, the results of our study were substantial. Third, the keywords we provided to the participants were created by the primary researcher in order to be specific to piano study. While existing studies provided keyword suggestions to their participants, these were not provided in the literature we consulted so we could not borrow them. Fourth, we accommodated participants who did not complete the journal entries within the time frame of four weeks. A variety of reasons were given, including family troubles, work commitments, vacations and piano teacher influence. Fifth, the primary researcher was solely responsible for creating a set of music-specific sub-themes (codes) – the reflective components – with which to analyse the piano students' journal entries. The primary researcher handled this situation by consistently revisiting the chosen themes and making adjustments. In a future study, researchers could improve upon this model by bringing in their own insights and collaborating on the choice of themes. Sixth, participants chose which new piece to use for the study. Some participants chose multi-movement works (e.g. a complete piano sonata) and others chose stand-alone pieces (e.g. studies and character pieces of varying lengths). A possibility for improving this design would be to conduct a study where the researcher chose the piece to be learned and all participants worked on the same piece.

## **Recommendations for future research**

Piano pedagogy researchers can expand on our study. They could use a larger sample size, control for variables such as gender, age and year of study, and include a panel of experienced piano teachers to agree on themes to include during the coding process. Future studies can be conducted over a longer period of time (e.g. a semester) to see if the differences in reflective growth between participant groups continue to expand or become narrower with the control group having more opportunities to become naturally more reflective. The reflective training procedure itself could be expanded to include seminars to facilitate discussions. The demographics of the study could be expanded to include adolescents or children. The same follow-up survey can be given to participants in the control group to see if there are perceptive differences between the two groups. Involving piano teachers in future studies could reflect the influence instructors have on their students' learning processes. Researchers can alter the initial journal instructions for all participants to include a note on being as specific as possible when journaling. Furthermore, future studies can encourage groups of students to focus on specific elements, such as technical issues or interpretation. In this way, the frequencies of reported reflective components might become more accurate. These avenues for further reflection research in piano study could ultimately encourage more burgeoning pianists to consider making use of journaling techniques as part of their music training.

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