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Musicianship and Personal Knowledge Management

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Abstract

In today's information focused world, most days involve contact with some form of screen and keyboard for work and leisure purposes. Learners must be dexterous and agile to effectively respond to shifting labour market requirements reflecting fast-changing technological needs and expectations. Information is available in a myriad of forms and successful engagement requires effective and efficient skills and understanding. With this background, this paper asserts that a musical skill set broadens the way that learners subsequently engage with and manage their information acquisition and use. This provides a broader base for ongoing knowledge management. Using philosophical and reflective approaches, it draws on life experiences from arts education by way of a duoethnographic approach. Two narratives provide insights of individual experiences, subsequent acquisition and engagement with information and consequent enhanced knowledge. These are analysed using a personal knowledge management model, providing a visualisation approach to the collaboration through knowledge sharing. The dialogic results demonstrate how the background of musical competence enriched subsequent learning capability in structuring and operationalising knowledge acquisition and management.

Keywords: *personal knowledge management, musicality, prior learning, collaboration, managing information*

Musicianship and Personal Knowledge Management

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Introduction

In contemporary society, our everyday lives regularly involve contact with some form of screen and keyboard for work and leisure purposes. As such, effective and efficient skills and abilities are valuable. Within the arts, a comparative illustration of this is through music. Musical knowledge can be acquired in different ways over time with a focus of understanding of information and interpretation of meaning (Hansen et. al., 2012). Those who possess musical knowledge through playing an instrument or who engage with musical activities during childhood acquire a broad set of skills such as creativity and social skills (Hallam, 2010). However, there is a lack of research to confirm possible links between musical knowledge and broader information management skills. This paper asserts that a broad musical skill set enhances the way that learners engage with and manage their subsequent information acquisition and that this experience subsequently enhances their broader knowledge management. Hence, the

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research question being considered is: Do musical skills and experience influence how information is managed?

Music is a multi-dimensional subject which can be understood as a fictional or virtual agent where complex emotions are expressed (Robinson et. al., 2012). Its interpretations are influenced by numerous factors including training, cultures and backgrounds (Hallam & Prince, 2003). Musical skills and interpretation are acquired in various ways over time with a dominant emphasis on routine to perfect technique and analyse information to interpret and understand meaning. Musical ability has been shown to be associated with enhancement of verbal working memory (Hansen, et. al., 2012), where experts significantly outperform non-experts, showing that the former have a better visual-spatial working memory. The beneficial effects of music have relevance across multi-disciplinary areas (MacDonald, 2013). Musical experiences promote health within and outside of therapy settings, positively impacting on the development of confidence, identity and provide affordances to persons with different health problems (Bonde, 2011). This presents opportunities to enhance the management of anxiety and stress through emotional and cognitive engagement (MacDonald, 2013). Musical skills offer advantages to a range of activities including creativity, numeracy, literacy, fine motor coordination, self-discipline and social skills (Hallam, 2010).

Learning in music links to processes that are claimed to be common to human beings across cultures (Hallam & Bautista, 2012). When listening to music, information is processed and relates to former culturally embedded experiences. A gradual socialisation during childhood informs the pre-requisites of developing music instrumental expertise. The significance of apprenticeship within music instrumental teaching and learning is highlighted by Burwell (2012). By acknowledging its complexity, apprenticeship becomes useful in understanding the prac-

tice of learning to play a music instrument. A focus on the relationship between music instrumental learning and reflective practice is presented in the context of ongoing professional development (Roessger, 2015). Instrumental learning is considered an important feature of adult learning. From the learner perspective, individual and collective instrumental classes are compared reflecting embodied cognitive science (Schiavio, et. al., 2019). Aspects such as technique, expression and communicative skills are considered as relational, a common characteristic that extends over different pedagogical settings. A systematic review concerning processes related to music learning shows the significance of self-regulation (Wynnpaul, 2014). However, few studies have focused on children's motivation of learning a musical instrument (Oliveira et. al., 2021). Instead, studies have predominantly focused on the significance of social background and parental influence.

In rethinking and refiguring music education, Kioupkiolis (2019) suggests an alternative paradigm. This proposes transforming education into a collective good, jointly created by all participants in the learning context. This was advocated for a common music education characterized by inclusion leading to equal collaboration. Vist and Holdhus (2018) focus on aesthetic theory pertinent to music education and more specifically on intersubjective relations indicating that there is a need for "relational aesthetics as a pedagogical and intersubjective resource in music education" (p. 207).

Moving on to studies with a duoethnographic approach, Rose and Montakantiwong (2018) used dialogic narratives when drawing on their experiences as teachers in English language classrooms. Banegas and Gerlach (2021) focused on the identity and agency of two educators in critical language teacher education, by using a duoethnographic approach. They reflected on their practice and engaged in written dialogue, revealing that their sense of responsibility and social justice was crucial in their role as

teacher educators. Two art educators shared their understandings as practitioners by applying an art based duoethnographic method (Chien & Yang, 2019). They learned from each other´s pedagogical perspectives and contributed with a new way of reflecting on teaching and learning (Chien & Yang, 2019). A study in a higher education setting combined duoethnography with collaborative analysis of written reflections of former students (Koonce & Lewis, 2020). This deepened their understanding of personal dispositions for exceeding boundaries in higher education, contributing with a collective narrative of care in teaching-learning relationships. Fitzpatrick and Farquhar (2018) showed common reflections in changes in a neoliberal university with an aspiration for a stronger emphasis on collegial relationships enabled a transformative and inclusive service and leadership culture. Within management education, researcher identity has been focused through a duoethnographic lense. Gender and epistemic assumptions were revealed through critical reflections (Kinnear & Rugguan, 2018). Duoethnography was applied to peer mentorship for new faculty members in Higher Education using an online journal and emails to share experiences (DeCino & Strear, 2019).

The long standarding realism-instrumentalism debate in the philosophy of science focuses on whether science should produce "truths" about the world or solve conceptual or practical problems (see Keita, 1983). Within instrumentalism, scientific theories should function as tools to solve problems and should assist people in adjusting to the world, instead of describing the nature of "truth". However, Keita (1983) claims that a polarization between advocating realism and instrumentalism is ineffectual, given that researchers do not associate themselves specifically to one or the other. More recently, Leplin (2017) argues that the debate between realism and instrumentalism is still at an impasse, more specifically within the arts. This leads to the legitimacy of philosophical arguments still being unsettled.

The routine of practice demonstrates a skill set in itself, defined as "an organised activity that applies scientific and other knowledge to practical tasks by means of ordered systems involving people and organizations, living things and machines; using natural systems and materials; to produce goods, services and other values" (Pacey, 1993). In comparison, the practice of learning highlights these musical aspects, demonstrating the coordinated and harmonious functioning of different styles of learning.

In summary, literature existed to support such assertions that those with musical knowledge possess a broad set of skills from a range of subject settings. Through reflection on the experience of developing musical skills and their impact on subsequent knowledge management, this paper uses a duoethnographical approach to demonstrate their relevance to other learning contexts. The informal sharing of shared life experiences of music and subsequent learning journeys in higher education led to questioning and subsequent clarification of whether our musical skill set had positively impacted on our information management.

Methodology and Design

Sharing Personal Knowledge Management

Knowledge grows over a period of time. It requires feeding, watering and nurturing to manifest a prosperous yield. A positive and confident knowledge base in individuals enables wider knowledge communities to develop and progress through personal learning and knowledge management. Such developments need an appropriate structure to ensure that maximum impact and enduring sustainability are achieved. A personal knowledge management (PKM) model (Smedley, 2009) provided such a struc-

ture here, illustrating potential applications of music with information management. This personal knowledge management model (PKM) highlights collaborative (organisational) learning (Nonaka & Konno, 1998) through individual learning contributions (Kolb, 1984). Using a duoethnographical approach, this paper considers whether a broad musical skill set enhances subsequent engagement and management of information acquisition and thereby enhances broader knowledge management. Reflecting the importance of an equivalent balance of responsibilities and contributions within a collaboration, the positioning of the collaborative parties was considered. This used a visualisation approach to highlight the flow of personal knowledge management developments during organisational knowledge sharing. In our context, the individual iterative PKM model highlights the relative equivalences of each research contributor through a "side-by-side approach" along an "axis of collaboration" (Fig 1).
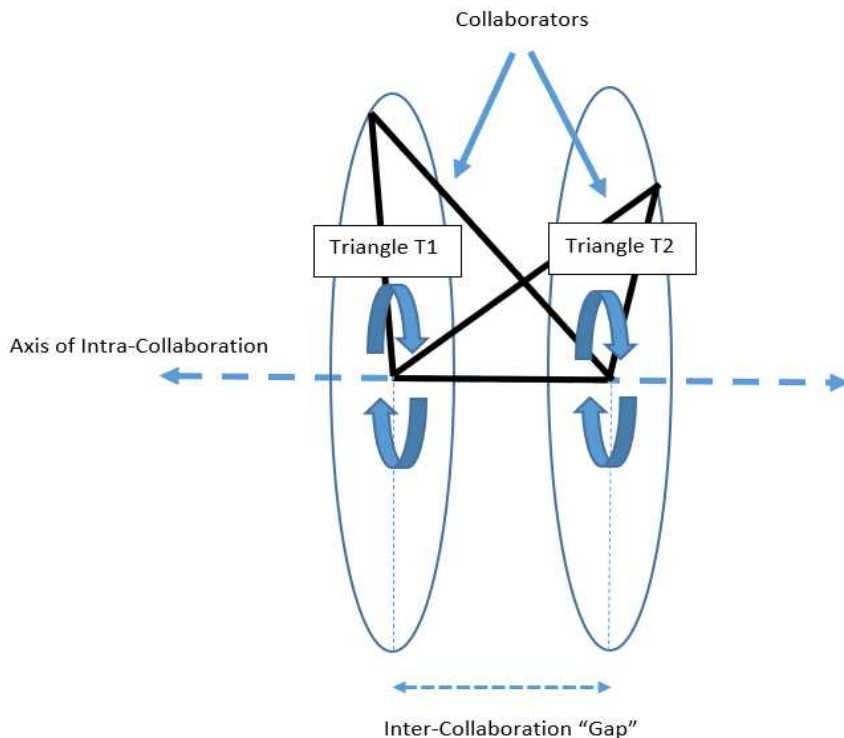

Figure 1: Sharing Personal Learning

The two triangles, sharing the same base in Figure 1, denote the "triangles of trust". These represent the initial position of individual contributors relative to each other at the start of collaboration. The radii of the circles are equal - denoting the acknowledgement of learning experiences with the varying positions on the circles denoting the varying pace and position of the individuals. The hypotenuse of each triangle represents the individual collaborator´s understanding and awareness of the others´ experiences. The "axis of collaboration" reflects the desire for ongoing collaborative developments on and identification of areas of commonality.

Progressing Learning Experiences

During collaboration, the participants start by identifying similarities between their learning experiences and thereby progress shared learning equivalences (demonstrated through equivalent positions within their individual learning circles (Fig 2). This provides appropriate preparation to minimise the inter-collaboration gap.
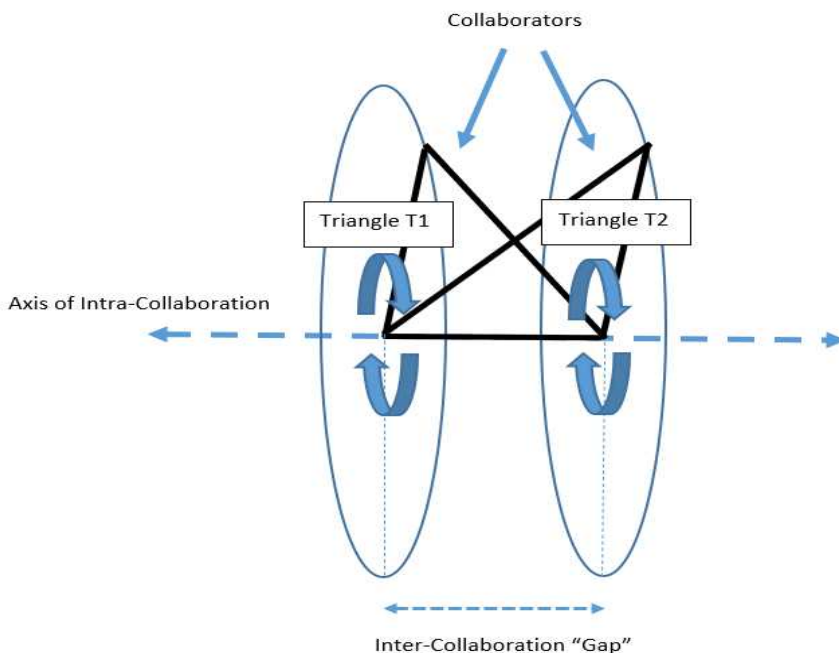

Figure 2: Progressing Learning Equivalences

Confirming Collaborative Knowledge Management

Next, equivalences of learning and potential collaboration themes are identified through shared experiences. Hence, a deeper level of sharing is achieved as demonstrated visually by narrowing the inter-collaboration gap (Fig 3).
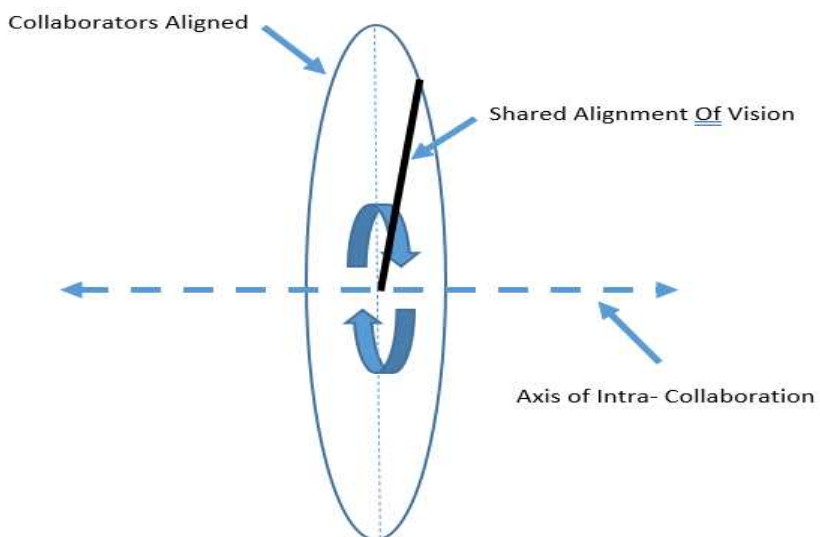

Figure 3: Collaborative Alignment of Visions

It should be stressed here that this is not about establishing an "equality" of shared experiences, as the individual backgrounds of such may originate from different sources. Collaboration through reflection and dialogue enables enhanced shared understanding and value of each other's positions and experiences.

Ethnographic Approaches

This study is based on an empirical material with the two authors as participants. Both have experience of lecturing and researching in higher education. Their working situations enabled the informal highlighting of similarities in learning experiences, particularly a common background of learning and playing a musical instrument from early childhood providing the starting point for the study. Both authors drew on personal and professional experiences through narratives and dialogues, using themselves as collaborators in the research situation. Duoethnography as an approach makes possible new perspectives on the works and identities of teacher educators (Hayler & Williams, 2020). As duoethnography is an evolving form of inquiry, there are several ways of staging the design and method, reflecting that it is built on a dialogic character (Norris, 2017; Breault, 2016). Differences between the authors´ experiences provided an opportunity to explore more perspectives on the phenomenon at hand (Norris, 2017). Such a design emphasizes self-reflexivity as a ground for trustworthiness: "What is important is the believability and trustworthiness of the research and that can be determined by the rigor of the collaborative inquiry that is made explicit in the study itself." (Breault, 2016, p. 779). Further, ethical aspects between researchers were continuously negotiated, combined with a mutual trust and respect for one another (Norris, 2017).

Implementation

The research question guided the focus of the initial individual review and subsequent interpretation and reflective analytical dialogue. Reflecting the different experiences of learning and with a desire for a greater shared core knowledge and understanding, a visualisation approach was adopted reflecting the different starting points of collaboration (Smedley, 2009). The empirical material of the study consisted of

two written (seed) individual narratives (Figure 1). Each narrative was read several times by both authors leading to a collective insight of the content, informing a philosophical dialogue between the authors (Figure 2). This enabled the achievement of a shared learning understanding and effective collaboration (Figure 3). The research question guided the focus of the reading and subsequent interpretation and reflective analytical dialogue.

Narrative - MHZN

When I was eight years old, I started taking piano lessons and continued to do so during my childhood, adolescence and as a young adult. From the beginning, I learned short pieces of music played by both hands. The approach involved learning the piece bit by bit by an atomistic approach, considering each note, each bar, each row of the scores as separate entities. One specific aspect was fingering, which was learned slowly from the beginning, reading from the score. I learned that every little detail carried musical meaning and that, as a musician, I needed to pay thorough attention to them all. The need to pay attention to detail trained me to realise how information was stored within the musical score and its value in interpretation when playing. The piano pieces were as buildings, constructed brick by brick, where each brick needed to be solid and in the right place to enable the next layer to have a solid base. The attention to detail approach trained me at spending time to perfect my learning. Initially, I learned to play the music score and, gradually I read the score more than looking at my fingers. I heard that I still played the correct keys, which implied effective hand-eye coordination skills. To be able to do that, I built on my knowledge of using the correct keys implying motor coordination skills and my gradually increasing technical skills. This learning had a clear emphasis on structure which helped me to realize that I needed to pace myself and allow things to progress over time. It was a useful lesson as my usual hectic schedule involved studying, playing sports, spending time with

friends and having time for leisure activities. This was very different from the more measured pace that was needed to practice and thereby develop my piano playing skills.

The learning process encouraged me to develop self-discipline. I scheduled my practice sessions directly after school, before sports practices and school homework. My self-discipline when learning new piano pieces by score consisted of maintaining focus when practicing, and to have patience in order to be able to play a piece on a higher technical level. Gradually, having succeeded in learning several piano pieces by learning slowly and being focused, I learned that perseverance pays off in the end. Closely connected with self-discipline and following a strict routine was my ability to remember each layer of detail when rehearsing. Over time, this enabled me to pick up speed to a certain degree when learning a piece, still paying attention to detail. I preferred to combine reading the score with playing by ear, hearing and listening to the music, the chords, the harmonies, the sounds as the music in itself. Hence, having learned the score and the piano technique, I paid more attention to the musical sound than the scores. I learned the art of expressing emotions when playing, finding my individual interpretation of the music. I developed a habit of being inspired by a chord or a couple of chords from a classical piano piece that I varied and then used as a start of a composition. This was usually a ballad with lyrics, song and piano accompaniment which combined my skills and learning to create new music.

The story of my musical learning was a story of consistency, to never give up and to raise the level of my learning achievements. Hence, learning to play the piano made me discern possibilities and limitations. From a young age, I was allowed to play pieces that were too difficult for me. This made me realise where my limitations were and subsequently created the motivation I needed to work on technical and musical aspects to progress to the next level. As the piano pieces gradually got more challenging, I developed the skill of remembering the scores when playing by heart. I

visualized the score as a flow of different pictures corresponding to the themes in each piano piece. This enabled me to understand the piano piece at a meta-level, as a holistic entity of harmonies, expressions and emotions herein. I learned how to express emotional dimensions of music, which created a strong bond between myself and the piano as an instrument.

Narrative - JS:

My memory of my first lesson was when I was five years old. It was short and I used my right hand. As lessons continued, I learned that each sound on the piano keyboard was associated with a shape and position on paper, i.e. notes (the language of music). Gradually, I mastered various hand positions for different notes (manual dexterity) followed by using both hands while each adopted different positions on the keyboard resulting collectively in a positive sound (multi-tasking). I found fingering challenging at first but quickly realised the importance and value of the rigour in enabling me to play music more effectively and efficiently. I needed to practice the development of my dextrous skills with each hand before combining them to achieve a positive outcome, i.e. a first albeit individual experience of team working.

I studied a second instrument, the flute, and progressed speedily transferring my previous musical learning to acquire the specifics of a different instrument. There were apparent differences in technique and approach but my musical knowledge and learning techniques of practice and approach enabled me to successfully acquire an accomplished level quickly.

Despite my practice being skill focused with associated tedium, I found it relaxing and that the routine focus enabled me to mentally recharge. The learning and mastery of basic skills became gradually easier through regularity of practice. Although initial grounding exercises could be frustrating with little perception of value or bene-

fit, recognisable outputs emerged steadily over time. That old adage of little and often really worked for me and it is an approach that I have taken into other study areas and life-wide activities with considerable success. Some see this regular approach as unnecessary and a self-imposed discipline and then also comment that they have no idea how I have achieved so many outcomes during my life. To me, this regular approach to practice of these skills enabled me to become proficient in keyboard skills without realisation of any substantial hardship. The routine has provided structure and has enabled me to consistently move forward despite challenges and values among its essential elements.

I found practicing at the same time everyday suited me, but in reality it was difficult to implement. As an alternative, I built my music practice into part of my daily routine as a prompt. As my technique and ability grew – alongside academic and sporting commitments – I found that my practice needed to fit in with other equally important activities. Little and often really was the watchword to ensure everything was achieved. It was also important to remember that there were plenty of musical activities that could be done without an instrument, i.e. musical theory. Though it was tempting to skip a day – my brain was invariably good at finding excuses! - it was important to resist the temptation. It was better to practice regularly for shorter lengths of time than for only a couple of times a week for long stretches. Striving for consistency over bursts of practice were important life lessons and provided rich dividends.

Working towards goals from my music practice provided direction and sustained motivation. For example, as well as studying for grades, I joined an orchestra and small groups. As well as providing opportunities to practice my instrumental technique, this provided experience of playing music with others – something that I would otherwise have had limited experience of doing. This experience sustained my enthusiasm for practice while also providing additional projects to work towards.

With all these habits for improving practice, the key was consistency. It was crucial to be on the lookout for continuous, long-term ways to keep engaged, challenged, and inspired to achieve.

Reflective Dialogue

The following dialogic discussion explores individual and collaborative learning

JS: I don't recall a time in my life when I haven't used a keyboard of some type. Having grown-up with using a musical keyboard from an early age, I really became aware of the value of general keyboard skills and the dexterity that this provided when I was at University on a wider learning journey. This coincided with the surge of the modern personal computer and the development of the internet - both significant factors in the application and wider use of digital keyboards. While we all needed to acquire the skills of a digital keyboard, my familiarity of using keys to input information and progress outcomes provided a really helpful background as my digital environment widened as part of my subject based learning.

MHZN: Well, it seems like a similarity between our experiences consists of the impact of how our musical skills have enhanced our professional academic careers. I think that the necessity of information management is important, such as acquiring digital capabilities in higher education as researchers and teachers

JS: Yes, I recall learning fingering at a young age and wondering about the relevance of it. Of course, we don't use fingering per se when we are using digital devices but the musical skills that I acquired raised my unconscious awareness and confidence of using two hands simultaneously to progress an outcome. I guess I thought everyone used this approach until I reflected more widely on others´ use and realised that was often not the case! I had a distinct advantage in using a digital key-

board as my hands were familiar with working side by side. Mine was never a one or two fingered digital keyboard experience!

MHZN: I agree! I especially benefited from the way of learning finger-hand coordination through structured variation in piano playing, when typing on digital keyboards and learning new digital devices. Since I was used to using all ten fingers on the piano, the transition to also use all of them on the digital keyboard was easy.

JS: Do you think such skills and knowledge have impacted our academic approaches? I guess my musical background has always been part of me from an early age, so it's only on reflection that it becomes apparent how the skills that I learned through my music have helped my academic learning. Time management for me is a particularly important aspect. My musical learning taught me to play in a specified pace or style - and it's also about managing time in practice and managing time in preparation for performance.

MHZN: Yes, I really think that our musical experiences have impacted on our academic approaches. With influence from my musical skills and experiences, I usually use an atomistic approach to manage time when I learn as an academic, paying attention to details. It has been necessary to acknowledge the importance of details to achieve high quality in my learning. This implies attending to and acquiring knowledge and information in a structured way. When focusing on teaching, administrative tasks or research, the importance of structure that I learned when playing the piano, assists me in achieving effective time management. So, the way of making time and organizing time makes the learning possible and effective. The organizational structure includes initially focusing on the "mechanical" aspects in the learning task at hand, which implies adopting an "atomistic" perspective. When moving on, focusing on the holistic level, the organizational structure implies focusing on giving yourself time to master the task completely, by taking it slow.

JS: Yes, attention to detail is an important aspect of academic writing and learning. Being half right is not appropriate - it's important to be confident of personal learning and be confident in its application. For me, the detail aspect in learning music gave me an approach of taking things step-by-step. I don't plough into the middle of a project at the beginning - I think through what is involved and consider different aspects. Thinking about this now, it closely reflects my approach to learning some of my earlier piano pieces. I learned a modus operandi of learning the right hand, then the left hand and then put them together. After that came the tempo and the interpretation. Achieving outcomes is inherent in my style. A half finished piece just wouldn't have happened and this is similar to my academic work. It is an approach that has always worked - then and now.

MHZN: Interesting! That relates to my experience of discerning possibilities and limitations when learning piano pieces. This has influenced the way in which I have managed to take on new challenges and develop as an academic. Having had the opportunity to have leader assignments on different levels, I have had self-confidence in being able to master these and eventually succeed, although they could appear as too difficult in the beginning. My way of handling these assignments was also enhanced by my musical experience of creativity and variation. My ability to handle the necessary and constant movement between details and entirety within these assignments was clearly influenced by my musical skills and experience. Also, experience of being focused when practising the piano assisted me in adapting to an effective time management when handling the assignments as an academic.

JS: This takes me back to how I used to feel when given a new piece of music to learn. Looking at the score for the first time, often seeing flurries of new notes, being concerned about whether I would be able to interpret it accordingly and then becoming excited by the challenge of bringing alive the score and portraying the sound in the way to reflect by interpretation of the meaning. That was important for me in developing the strategy of applying information - not just being willing

to accept the way that the notes were written on the score but wanting to bring them alive and to share their interpretation in a meaningful way. I look now at my academic work and I adopt a similar approach now too. I listen to what is said in the academic arena but I'm also thinking about the key messages that are coming through, what they mean and how they can be communicated to others. The parallels in the musicality and learning arenas are fascinating!

MHZN: I agree! Another crucial aspect for an academic career is to multi-task or having a "split-vision". This has clear parallels with reading the score in piano with base and treble clefs simultaneously, while also paying attention to rhythm, tempo and interpretation.

JS: Yes, today's academic profession requires a multi-skilled approach - for example, quality management, information management, time management, people management ... there are many more. From a quality management perspective, my musical training instilled in me the need for correctness to avoid repetitive keyboard errors (and also avoid members of my household suffering!). I learned early on that it was important to be precise and pay attention to detail in order to achieve correctness. With regards to information management, as well as "touching" the keyboard, my audio awareness acted as a checking procedure during my musical creations. Although a digital keyboard does not provide such audio feedback, instead, it yields visual feedback through the production of text and images. With regards to time management, counting in music is important to make sense of a composer's intentions. A metronome provided guidance and continuity of time, but, in a wider sense, there was also a need for effective time management in counting individuals and groups of notes to assure the expected rhythm was achieved. Even in practicing, I allocated myself regular practice sessions to ensure effective engagement and it was important that I adhered to this regular schedule to ensure that my studies could also receive appropriate amounts of time. People management was important when it came to playing duets. While playing the piano can often

be viewed as a solo experience, duets involve effective collaboration aligned with the other management approaches to ensure effective engagement and outcomes. There are other management approaches which could be mentioned here, although I only realised how much I gained from the musical skills development in hindsight.

MHZN: Interesting! Being used to having several tasks "running" at the same time from an early age helped me to learn how to cope with split-vision. I really learned to "multi-task" by choosing to practise the piano parallel with all other activities. In particular, I think of time-management. Instead of having to do one thing at a time, which by the way is quite impossible in today's academic profession, it was quite feasible to attend to several tasks, being on different stages in their process, keeping track of both aspects as well as the overall agenda at the same time. Having the self-confidence from being a musician, I knew I could cope with that.

JS: In all those times that I was practising music, although I enjoyed it, the only employment that was ever mentioned relating to music was teaching or performing. I wasn't good enough for the latter and music teaching was seen as quite narrow - hence my need to explore other avenues. What I hadn't realised was the level of skills training that it has given to me and developed within me. It wasn't just about music per se. It was also about the skills that it enabled me to develop, which directly links to those elements of management that I mentioned previously. My reflections have enabled me to realise that my musical skills have developed my quality assurance and enhancement expectations, which have directly impacted on my work in academia. Thinking further, I would also say that these have enhanced other applications too, so that the expectation of precision and detail manifests itself through my life-wide activities.

MHZN: I agree! Being a researcher, teacher educator and administrator in higher education, my musicianship has provided skills and experiences. These approaches have assisted me in creating routine, structure and regularity in my professional

pedagogical work practice. These aspects have also been beneficial in other aspects of my life.

Analysis

The link between the acquisition of musical skills and their application to wider areas is intriguing, as reflected in four intertwined themes from the dialogic discussion. These are hand-eye coordination experience, atomistic and holistic learning approaches, self-confidence, creativity and variation and multi-tasking and "split-visions". Collectively, the themes demonstrate how musical skills and experience influence the ways that information is managed.

Firstly, from a detailed perspective, hand-eye coordination experience of continuously using a musical keyboard during childhood enhances the application and wider use of digital keyboards as an academic. This reflects Hallam´s (2010) emphasis on musical skills offering advantages to similar activities including fine motor coordination. In addition, musical skills influence the effective management of information, due to the confidence of using two hands simultaneously to progress an outcome.

Secondly, experiences of starting with an atomistic approach when learning music and gradually moving towards a holistic understanding demonstrate similarities with the way we learn from a wider academic perspective. This variation in ways of learning over time is in line with Robinson et al´s (2012) study, showing that musical skills and interpretation are acquired in various ways over time. The holistic focus also relates to Pacey´s (1993) approach that the practice of any learning can be likened to aspects in musical learning, requiring the coordinated and harmonious functioning of different dimensions to perform to its optimum.

Thirdly, musical skills and experiences enhance a broader knowledge management in higher education, having acquired self-confidence, creativity and variation in

the former that comes to use in the latter. This relates to Bonde´s (2011) emphasis that musical experiences promote confidence and identity. Roessger (2015) acknowledges instrumental learning as an unparalleled process of problem solving. Hence, our assertion is that experiences from such problem solving have enhanced our professional development in higher education, by way of developing a reflective practice in the context of ongoing professional development. Also, aspects of self-regulated learning, deriving from music learning (Wynnpaul, 2014) have been significant in developing a broader knowledge management.

Finally, musical skills and experiences have influenced the capability of being able to multi-task and having "split-visions" in personal knowledge management in higher education. Musicianship skills have enhanced the ability to adjust to the academic multi-skilled approach including quality management, information management, time management and people management. Our increased abilities in management implies that music education has provided an intersubjective resource (Vist & Holdhus, 2018), contributing with relational competence. As such, the experienced music education contributes to a collective good (see Kioupkiolis, 2019). Further, increased personal knowledge management relates experiences of the collective dimensions of learning music, where communicative skills are considered as relational, to a common characteristic extending over different pedagogical settings (Schiavo, et. al., 2019). Success in management approaches also indicates having learned self-regulation processes through instrumental learning (Wynnpaul, 2014).

The way in which musical skills offer benefits of self-discipline and social skills (Hallam, 2010) has been particularly significant. Musical experience has enabled the development of a broad set of learning skills (Hansen et. al, 2012). This contributes to possessing a broader knowledge management skill set, as required for successful academic learning.

Varkøy et. al. (2020) concluded that there is a need to rethink the tension between crafts and art, crafts (wo)men and artists. There is a need to rethink apparent tension between creativity and gender (Varkøy et. al, 2020). This aligns with a similar apparent misunderstanding of the border between musical capabilities and academic skills, where the focus is often on competition rather than on how the former might enhance the latter. Further, the situation could be considered as a parallel between the art of playing an instrument and the craft of being an academic thereby offering continually updating benefits to both aspects.

Overall, broad musical skills have shown to constitute advantages in a range of activities, including creativity numeracy, literacy, fine motor coordination, self-discipline and social skills. The beneficial effects of music have influenced how information is managed in academic settings, revealing music´s relevance across multi-disciplinary areas. This demonstrates that a broad musical skill set enhances the way that learners engage with and manage their subsequent information acquisition and use and thereby enhances their broader knowledge management.

Conclusions

Against a backdrop of musical skills, this paper has explored the research question that lessons learned from acquiring musical skills assist subsequent wider learning experiences in various subject disciplines and onwards into employment. As such, the paper relates to the instrumentalism debate, highlighting that creative skill development contributes to the development of wider individual learning skills and their onward application in a range of management focuses. Through undertaking this research, the authors have gained greater understanding of their individual experiences and those of each other through systematic sharing using a three stage visualisation approach. This approach helped the development of a collaborative approach during

the formation of individual stories and enabled the recognition of, shared common themes and progressing an effusive dialogue of learning experiences, enabling enhanced realisation of personal and collaborative learning outcomes. Continuing work is focusing on how creative aspects of musicality impact on wider organisational management skills and experiences and associated learning approaches that could be used in management development.

References

Banegas, D. L., & Gerlach, D. (2021). Critical language teacher education: A

duoethnography of teacher educators´ identities and agency. *System, 98.*

https://doi.org/10.1016/j.system.2021.102474

Bonde, L. O. (2011). Health musicing, music therapy or music and health? A model,

empirical examples and personal reflections. *Music and Arts in Action, 3*(2),

120-138. http://hdl.handle.net/10036/3970

Breault, R. A. (2016). Emerging issues in duoethnography. *International Journal of

Qualitative Studies In education 29*(6), 777–794.

http://dx.doi.org/10.1080/09518398.2016.1162866

Burwell, K. (2012). Apprenticeship in music: A contextual study for instrumental

teaching and learning. *International Journal of Music Education 31*(3) 276–

291

Chien, T. F. & Yang, H-C. (2019). Arts in transformative learning: an arts-based duoethnography. *Reflective Practice, 20(5)* 619-636, DOI: 10.1080/14623943.2019.1651714

DeCino, D. A. & Strear, M. M. (2019). Duoethnography: a mechanism for higher education faculty mentoring. *International Journal of Mentoring and Coaching in Education 8*(3) 150-162. DOI 10.1108/IJMCE-07-2018-0040

Fitzpatrick, E. & Farquhar, S. (2018). Service and leadership in the university: duoethnography as transformation. J*ournal of Organizational Ethnography, 7*(3) 345-360. DOI 10.1108/JOE-08-2017-0037

Hallam, S. & Bautista, A. (2012) Processes of instrumental learning: The development of musical expertise. Vocal, Instrumental and Ensemble Learning and Teaching. *An Oxford Handbook of Music Education Vol 3.* Oxford University Press.

Hallam, S. (2010) The power of music: Its impact on the intellectual, social and personal development of children and young people. *International Journal of Music Education. 28*(3), 269-289. Available at https://doi.org/10.1177/0255761410370658

Hallam, S., Prince, V. (2003). Concepts of musical ability. *Callaway international research center for music education,* 20. ISBN 88-7395-155-4.

Hansen, M., Wallentin, M., Vuust, P. (2012). Working memory and musical competence of musicians and non-musicians. *Psychology of Music. 41*(6) 779-793. DOI:10.1177/0305735612452186

Hayler, M. & Williams, J. (2020). Duoethnography to Explore the Work and Lives of Teacher Educators. *Self-study of teaching and teacher education practices book series* (STEP, volume 22)

Keita. L. (1983). The Instrumentalism-Realism debate: A Case for a Diacronic Phase Theory. *Crítica: Revista Hispanoamericana de Filosofía, 15,* (43), 79-102.

Kinnear, L.C. & Rugguan, A. (2018). Applying duoethnography to position researcher identity in management research. *SA Journal of Human Resource Management. 170*(0), a1056

Kioupkiolis, A. (2019) The Commons and Music Education for Social Change. *European Journal of Philosophy in Arts Education, 02*(4), 111-146

Kolb, D.A. (1984). *Experiential Learning: experience as the source of learning and development*, New Jersey: Prentice-Hall. ISBN: 0132952610

Koonce, J. B. & Lewis, K.A. (2020). Culturally Relevant Care Through the Lens of Duoethnography. *The Qualitative Report, 25*(6), 1721-1735.

McDonald, A.R.R. (2013). Music Health and well-being: A review. International

Journal of Qualitative Studies in Health and Well-being 8,(1), 1-13.

https://doi.org/10.3402/qhw.v8io.20635

Leplin, J. (2017). Realism and Instrumentalism. W-H. Newton-Smith (Eds.) A

Companion to the Philosophy of Science. Blackwell. ISBN:9780631230205

Online ISBN:9781405164481 |DOI:10.1002/9781405164481

Nonaka, I & Konno, N (1998). The Concept of "Ba": Building a Foundation for

Knowledge Creation. California Management Review, 40(3), 40-54.

https://doi.org/10.2307/41165942

Norris, J. & Sawyer, R. D. (2012). Towards a Dialogic Methodology. In J. Norris,

R.D. Sawyer & D. Lund. Duoethnography. Routledge.

https://doi.org/10.4324/9781315430058

Oliveira, A., Ribeiro,F. S., Ribeiro, L.M.,, McPherson, G. & Oliveira-Silva. P. (2021)

Disentangling motivation within instrumental music learning: a systematic

review, Music Education Research, 23:1, 105-122, DOI:

10.1080/14613808.2020.1866517

Pacey, F. (1993). Schema theory and the effect of variable practice in string teaching.

British Journal of Music Education,10,(2), 91 - 102.

https://doi.org/10.1017/S0265051700001558

Robinson, J., Hatten, R. (2012). Emotions in music. Music Theory Spectrum, 34,(2),

71–106. Available at https://doi.org/10.1525/mts.2012.34.2.71

Rose, H. & Montakantiwong, A. (2018) A Tale of Two Teachers: A Duoethnography

of the Realistic and Idealistic Successes and Failures of Teaching English as

An International Language. *RELC Journal, 49*(1), 88-101.

Roessger, K. M. (2015) But does it work? Reflective activities, learning outcomes and

instrumental learning in continuing professional development, *Journal of

Education and Work,28:1,* 83-105, DOI: 10.1080/13639080.2013.805186

Schiavio, A., van der Schyff, D., Biasutti, M., Moran, N., & Parncutt, R. (2019).

Instrumental Technique, Expressivity, and Communication. A Qualitative

Study on Learning Music in Individual and Collective Settings. *Frontiers in

psychology, 10,* 1-15

Smedley, J.K (2009). "Modelling Personal Knowledge Management", *OR Insight,

22,* 221–233. doi:10.1057/ori.2009.11

Vist. T. & Holdhus, K. (2018) Does this Work [of Art] Invite Me into

[Intersubjective] Dialogue? Discussing Relational Aesthetics in Music

Education. European Journal of Philosophy in Arts Education, 1, (3), 182-221

Varkøy, Ø., Angelo, E. & Rolle, C. (2020). Artist or crafts (wo)man? European

Journal of Philosophy in Arts Education, 1(5),7-32

Wynnpaul, V., Abrami, P.C., & Upitis, R. (2014). Self-regulation and music learning:

A systematic review. *Psychology of Music, 44*(1) 55–74.

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