Self and peer review in dance classes using personal video feedback

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Abstract

Many forms of formative feedback are used in dance training to refine the dancer’s spatial and kinaesthetic awareness in order that the dancer’s sensorimotor intentions and observable danced outcomes might converge. This paper documents the use of smartphones to record and playback movement sequences in ballet and contemporary technique classes. Peers in pairs took turns filming one another and then analysing the playback. This provided immediate visual feedback of the movement sequence as performed by each dancer. This immediacy facilitated the dancer’s capacity to associate what they felt as they were dancing with what they looked like during the dance. The often-dissonant realities of self-perception and perception by others were thus guided towards harmony, generating improved performance and knowledge relating to dance technique. An approach is offered for potential development of peer review activities to support summative progressive assessment in dance technique training.

Keywords: Dance technique, iphoneographer, mastery climate, self and peer review, smartphone technology.

Introduction

We recognise there are many technologies available to assist student learning, such as Blackboard and Web CT, however we focus here on the use of smartphones as a contemporary application. We propose that such an application (for the recording of data) in the dance studio will provide the student with immediate visual feedback from which to implement change. A central driver of the research was to expose students to strategies that could promote ownership of their learning processes.

In today’s artistic climate, the demands placed on dancers by artistic directors and/ or choreographers require dance artists leaving tertiary institutions to be equipped with a myriad of interwoven skill sets. In the Creative Industries today, it is highly desirable to embed within the students’ training the notion of learner-centred pedagogy in order to facilitate such interwoven skill sets as independence, self-reliance and autonomy; skill sets associated with a mastery climate. Boyce states that a mastery climate is a ‘classroom teaching environment (or motivational climate) that emphasizes effort, improvement, cooperation, and self-referenced comparisons’ (2009, p. 49). O’Donoghue and Jones recommend that ‘university dance institutions foster a mastery climate to enhance performance outcomes’ (2007, p. 225), and show that fostering a mastery climate in the dance training environment supports the
psychological well-being of dance students through the development of their sense of competence and acceptance.

As university lecturers in dance within the Creative Industries Faculty of the Queensland University of Technology (QUT) in Brisbane, Australia, we are continually looking for innovative technologies in order to contemporise the way in which ballet and contemporary technique training is conducted in the 21st century. We find that dance students always seek feedback on their performance in technique classes. To address this we constantly look for alternative ways through which to provide each student with personal feedback about their performance. Teachers generalise as well as tune into individuals when responding to student work; but a teacher cannot tend individually to each student at the same time. With this limitation in mind, we incorporated into our teaching practice peer-to-peer feedback, or the ‘buddy system’. We have successfully implemented and refined this teaching strategy over many years. The buddy system requires that students form pairs and alternate between performing and observing, followed by review and critique. Although this formative assessment is not coming from the teacher, Sadler has shown that peer feedback is an essential component in students honing the development of a sense of quality (2010, para. 9). Moon claims that:

> Working with others can facilitate learners to reflect and can deepen and broaden the quality of reflection so long as all the learners are engaged in the process. Another person can provide the free attention that facilitates reflection, ask challenging questions, notice and challenge blocks and emotional barriers in reflection (1999, p. 172).

We observe students actively and enthusiastically engage with the buddy system in constructive learning experiences; therefore we continue to incorporate this as a complementary method of learning in the delivery of our daily technique classes.

Another commonly used strategy for feedback is the use of cameras to capture performance. The research of Ives, Straub and Shelley shows that ‘Films and videos of individual and team performances have long been used by athletes, coaches, and sport scientists to analyse and improve performance in technical skills’ (2002, p. 237). Tracey elaborates on the effectiveness of video as a coaching tool, stating ‘Video has a long history as a tool for coaching when used as a feedback instrument and has been used successfully to enhance skills’ (2011, p. 308). In the field of dance, bringing the video camera into a technique class in order to record students' dancing is not a new concept. Indeed, this strategy of the lecturer filming the students is one that we have both employed in the past. According to Jones, ‘Video feedback can be a powerful tool with which embodied literacy and [dance] performance can be enhanced’ (2014, p. 122). We note that, following the integration of this strategic tool into our teaching, visual feedback has been conducive in developing student awareness and assisting in the students' improved performance of technical and aesthetic skills with the most apparent being increased movement range. However, we have also experienced several disadvantages in the implementation of the 'lecturer filming the students' video feedback strategy.

Firstly, in order to be equitable to all students, we were mindful to ensure that everyone in the class was recorded executing all the content. In order to achieve
this we placed the camera on a tripod within the dance studio and attached a wide-angle lens. With the camera stationary and in record mode, we could devote all our time and energy to teaching and not be distracted by the filming. On viewing the recording we saw that all students were visible. However, those in the front of the class could be seen clearly whilst those further back diminished in the background. Images were also often too small and lacking clarity, which made it difficult for students to discern the finer detail in their dancing.

Secondly, the reviewing of the recorded data was too far removed in time from the ‘doing’ event, and consequently did not provide students with the immediacy to analyse their movement and implement change. The kinaesthetic memory of the sensations involved with the doing had faded. After the filmed technique class had been completed there was no time remaining on that day for review of the data captured, due to timetable constraints. The next available slot for appraisal of the data was the following day’s technique session. Students could more or less see what they had done but the feeling was missing.

In order to streamline this strategy, we sought alternative methods of capturing student work so that we could provide students with the opportunity to employ self and peer review. Our hypothesis was that immediacy of visual feedback would better facilitate each dancer’s capacity to associate what they felt as they were dancing with what they looked like during the dance. This was deduced from our above-mentioned earlier experiences of the ‘too far removed in time from the “doing” event’. Upon observing a student recording another student with an iPhone during a choreographic task associated with another subject, we realised that this form of smartphone technology would serve as an apt medium to fulfil our aforementioned quest. We know that in today’s culture of QUT dance, the one accessory all students possess is the smartphone with the capacity to record. This germinated the idea to take advantage of the students’ smartphones and utilise them for data collection as a learning tool in the dance technique class.

We recognise that in our pedagogy we both employ a holistic approach to dance training, valuing authentic expressive qualities as well as the accurate application of mechanics and dynamics in dance technique. We instil in our students the practice of incorporating a conscious employment of mechanics and dynamics to express artistic qualities in their dancing. We consistently use such an integrative holistic approach in our technique teaching, and we know that this approach is vital to the dance artist’s preparation for the ‘real world’. However, to pursue our hypothesis, the lens in this research was focused specifically on improving the mechanics and dynamics of the students’ technical training.

Planning and questions

In the beginning of 2014 and prior to the commencement of the Australian university semester, we determined to undertake joint research involving the use of smartphone technology. In the tertiary dance sector in Australia we have found little evidence of this approach used in the technical training of elite dancers.

Whilst planning the incorporation of this form of technology into the dance class five questions arose:
• Would it impede or distract the student in his/her training?
• Would the use of this technology speed up the process of technical development in the student’s dance performance?
• Would this help develop kinaesthetic awareness?
• Would this present negative effects on self-esteem?
• What effect would this have on student motivation?

We planned to focus our investigation on second year Bachelor of Fine Arts (Dance Performance) students. We provided them with our Consent Information Package for Participants which explained the purpose of the research and what their involvement would entail. All of the cohort agreed to participate in the research.

With respect to our duty of care to the students, the possible negative effects on self-esteem were acknowledged and brought to their attention. Dance students can at times obsess on less-than-perfect achievement. Jones states that ‘the teacher needs to take care that the method [video feedback technology] is used constructively to assist the dancer make self-perception and external perception congruent’ (2014, p. 122). We were mindful that by introducing this technology into students’ technique training it could be confronting, and that compelling them to analyse their dancing frequently over the course of a semester could lead to negative effects on their emotional state of being. This concern was at least partially mitigated through students having access to the dedicated sport psychologist in the dance discipline at QUT. The implementation of performance psychology skills training in our curriculum is indeed highly valued by both staff and students and crucial to student wellbeing. According to Urmston, ‘performance psychology offers skills which can support dancers’ confidence as more self-motivated performers’ (2014, para. 3). We suggested that students take advantage of this resource, not only if they were challenged by emotional issues of self-esteem, but as a strategic weekly enhancement to their training.

Methodology

Our investigation incorporated a hybrid methodological approach involving action research, observation, questionnaire and a semi-structured focus group in order to extract data. There were two distinct strands of research taking place:

• students’ action research investigating their own dancing with the smartphone technology:
• our academic research to determine the effectiveness of this intervention.

Because the spiral cycles involving planning, implementation and evaluation are a central feature of action research, we chose this as the best methodological approach for the students to engage with in their research. Kemmis and Wilkinson write that:

Action research is a process followed in research in settings like those of education and community development, when people—individually and collectively—try to understand how they are formed and re-formed as individuals, and in relation to one another, in a variety of settings—
for example, when teachers work together, or with students, to improve processes of teaching and learning in the classroom (1998, p. 23).

Action research enabled a framework through which the students could review, analyse, reflect, plan and implement change based on their self and peer feedback in order to improve their dancing.

With respect to observation Creswell says that:

Observation is the process of gathering first-hand information by observing people and places at a research site … As a form of data collection, observation [allows] the opportunity to record information as it occurs in a setting, to study actual behaviour (2002, p. 199).

Furthermore, Robson (1993) explains ‘a major advantage of observation as a technique is its directness … Observation seems to be pre-eminently the appropriate technique for getting at “real life” in the real world’ (p. 310). As dance lecturers, observation is a large part of what we do in the classroom. In terms of our research we identified observation as a relevant methodology through which to interrogate the activity of the students in the studio as they as worked on their self and peer review using personal video feedback.

The two other data collection strategies employed, the questionnaire and the focus group, permitted us to gather primarily qualitative data. Johnson & Turner note that ‘[t]he use of questionnaires and observation in a research study is an example of intermethod mixing’ (2003, p. 298), which we used in our hybrid methodology. Johnson and Turner continue to elaborate on intermethod mixing, stating that ‘[f]ocus groups are often used in intermethod mixing (i.e., along with additional methods of data collection), although they can be also used as a stand-alone method (2003, p. 309).

The questionnaire we designed and administered to the students was completed in their own time and collected before the semi-structured focus group interview. All data were anonymous. We used the questionnaire and semi-structured focus group to gain deeper insight into the feelings, perceptions and experiences of the students’ engagement with their action research. Fontana & Frey state ‘[t]he group interview [focus group] is essentially a qualitative data gathering technique that relies upon the systematic questioning of several individuals simultaneously in a formal or informal setting’ (2000, p. 651). We organised the focus group at the end of the semester in an informal setting in order to provide the students with an opportunity to expand upon the data gathered through the questionnaire responses.

The research primarily took place in purpose built professional standard dance studios at QUT over the course of one semester (ten weeks) of teaching. The cohort was exposed to learning and executing movement sequences within the technique classes in the genres of both ballet and contemporary. These classes were constructed, delivered and facilitated by us.

In summary, recording through the use of smartphones was the predominant tool used to capture movement data for the students’ ongoing self and peer review. In pursuit of our academic research, we took notes on our observations of the
dance students in the studio, administered a questionnaire and also conducted and recorded a focus group on completion of the studio investigation. This hybrid methodological approach provided qualitative data from which to glean a more informed understanding of the students’ experience using this enhanced application for self and peer review.

**Data collection by the students of the students for the students**

**Purposes of data collection**

For the first time, students were allowed to bring mobile phones into our dance technique classes. They were required to supply their own smartphone to collect data on their individual performance. We instructed them to use this data to:

- view and analyse their performance;
- reflect on the analysis of their performance;
- associate what they felt during the performance with what they observed in the data.

**Processes prior to recording of data**

For this research project we again implemented the buddy system in our technique classes; however, now the observing buddy became the *iphoneographer*, capturing the movement sequences on their buddy’s smartphone. Back in the studio we delivered and facilitated the students’ technique class. We chose a specific movement sequence for the application of the self and peer review strategy. The concept of restricting the recording to one movement combination in the technique class was a deliberate decision we took. We were mindful of the fact that we did not want the rhythm of the entire dance class to be adversely affected and lose a sense of flow through the stop/start nature of this intervention. We were also reluctant to expose the students to prolonged periods of dancing down time, respecting ‘safe dance’ practices as promulgated through the Australian Dance Council (Ausdance). Thus, periods of ‘cooling down’ were avoided, eliminating the risk of possible injuries associated with dancing cold.

We directed the students to buddy up and decide who would remain in the dancing space to execute the movement combination, and who would move to the side of the dance studio in order to undertake the recording, on their buddy’s smartphone, of their buddy dancing. Having determined their respective roles, the students were informed that after their initial analysis of, and reflection on their performance, time would be provided to:

- implement changes from their own observations and reflections;
- buddy up again, allowing for peer feedback and consideration of the feedback given;
- implement further change based on peer feedback and discourse;
- dance and record the same sequence in a second iteration.
Recording of data

It was then time to execute the movement combination and capture the buddy’s dancing on their smartphone. We made a conscious decision not to prescribe for the students any particular areas to focus on when filming each other, but rather to allow the students to make their own choices about aspects of their dancing to be captured. Our reason for doing this was to provide the students the opportunity to take ownership of this process and their self-analysis, thus enhancing the student’s sense of self-determination and intrinsic motivation. The iphoneographer and dancer roles were then exchanged.

Initial student data analysis

Having captured the data in the ballet class, students were instructed to buddy up for analysis. They were further instructed to review in turn each other’s dancing and to provide critique, commentary and advice. Following discussion, practical implementation of suggested change/s derived from the peer feedback, along with analysis from self-reflection, took place on the dance floor. As opposed to the self-review in pairs that occurred in the ballet class, in contemporary class all students conducted analysis of their dancing by themselves after which they implemented self-designed corrections from their own observations.

A cyclic approach to student data collection and analysis

The second iteration

The whole process of recording of data was immediately repeated on the same sequence. A second data set was collected, which revealed to the students significant improvement in areas of alignment, dynamics and increased movement range.

Continuing the action research

This double cyclic approach to data collection was implemented in seven ballet and contemporary classes conducted throughout the semester. Single movement sequences were designated to be filmed rather than an entire class. Over the duration of the investigation we selected a variety of movement combinations so that students could use this strategy to hone in on a range of mechanics and dynamics, thus exploring a multitude of aspects associated with their technical development.

Our data collection

Data collected through our observations

The novelty of bringing mobile phones into the dance studio provoked a frisson of breaking a taboo. The students’ anticipation of having the opportunity to see themselves dancing in ballet and contemporary technique classes led to a palpable sense of excitement. During the initial stages of implementing this smartphone technology into their technique training, we observed a slight awkwardness amongst some students in terms of operational procedures. To be more specific, the variety in makes and models of smartphones led to some students’ unfamiliality with the
operational features of their buddy’s device. However, as the research developed both novelty and awkwardness diminished with the application becoming a given part of their practice.

In spite of the *iphoneographers* moving around the space capturing their buddy dancing and the buddy dancing also moving in the space, the nature of this complex choreography did not appear to disadvantage either the students who were dancing the selected sequence or the other *iphoneographers* recording. The way in which we orchestrated the two activities in the dance studio combined with the students’ developed spatial awareness ensured that parties did not collide. We also noted that although the students were aware of being filmed, there was no change in the energy output of their dancing compared to when they were not being filmed.

Upon completion of the initial capturing of data in the ballet class, lively discussions occurred in the studio and the lecturer discerned considerable surprise amongst the students at what they saw. The lecturer also noted the support and solace being mutually provided. In practice, several students seemed to prefer to perform the initial analysis alone; however they were encouraged to remain in pairs.

Upon completion of the initial capturing of data in the contemporary class, many students seemed to enter into a state of disbelief at what they had observed. This was made clear from comments made by individuals as the lecturer walked around the dance studio. After some moments of shocked contemplation, two modes of response emerged. The majority immediately took to the dance floor in order to improve aspects of the dance sequence, whilst others firstly recorded their findings into their class journals before physicalising their notes/corrections.

This bifurcation in the modes of response to the initial data analysis in the ballet and contemporary class is a direct and expected result of the variation in instructions given to the students. The ballet lecturer more stringently adhered to the principles of the buddy system and primarily focused on peer review, whereas the contemporary lecturer allowed for more personal ownership of the data through individual self-review. Following the second iteration in both ballet and contemporary class we observed in all students a marked unequivocal improvement (primarily increased movement range and dynamic variance) in the sequence danced.

**Data collected from the questionnaires**

We derived the questions for the questionnaire from those five posed earlier. The students were remarkably forthcoming, providing us with rich data. Below are representative comments that emerged from the questionnaire data:

- In the video, it looked so different from what I expected and what I think I should look like. I found it really easy to fix after watching myself in the video doing something wrong. When you watch yourself and think “That is not correct”, you immediately try to correct yourself because you want to look good and it’s really easy to accept the correction.

- It is great to have instantaneous feedback and see what areas are good and technically sound, which brings the positive aspect and also areas of improvement. For example, a video of an allegro exercise showed that
I wasn’t using my plié as much as I thought I was. In doing the exercise again and videoing a second time, I was able to make changes straight away.

… visually being able to identify an issue or incorrect alignment and watching it numerous times to understand fully how/why it is occurring and what is needed to be done to correct it. The application also, allowed corrections which were given from teachers to be fully understood when visually reviewing them on video.

It helps with immediate feedback straight after the exercise or movement sequence. By actually seeing ourselves we understand the corrections the teachers give us verbally a lot easier. It’s not just a verbal correction, we can “see” what the teachers see and learn how to correct it. For example, I discovered that a lot of my jumps had unextended working legs on the way down. By using the video and the feedback from it, I’ve been able to correct this.

Data collected from the focus group

Again, the questions prepared for the semi-structured focus group were essentially derived from those posed earlier. Data reviewed from the recorded session of the focus group revealed that students did not perceive the video feedback application as being disruptive. Their experience was that focus remained strong in the technique classes and the dancing down time had no negative impact on their sense of continuity or readiness to perform in class. All students were convinced that the inclusion of smartphone technology into their technique classes was an invaluable tool for their learning. Findings arising from the focus group also corroborated the students’ responses derived from the questionnaire.

Conclusion

Findings revealed from the data (student questionnaire, our observations and the semi-structured focus group) will now be discussed.

The students entered rapidly and enthusiastically into the process of buddy recording. By the second technique class (ballet and contemporary) in which this smartphone technology was implemented, the slight awkwardness involving buddy filming had been overcome. As lecturers, we noted strong engagement with the review, analysis, reflection, peer discussion and self-directed implementation of approaches for improvement. There was a hive of activity in the studio as the students got on with their research into their dance technique, focusing on aspects of their choice. The interwoven skill sets of independence, self-reliance and autonomy associated with a ‘mastery climate’ were definitively established in the studio.

Observing student behaviour in the dance studio revealed to us that students tended to prefer the individual initial review of the data rather than viewing the data in pairs. We recognised that students want to immediately self-correct, based on their own observations. This does not mean to say though, that students did not value peer-feedback. In fact, peer feedback was of immense importance to the students in...
interpreting the data and applying change. However, peer review was considered to be a secondary response following the primary response of self-review.

These conclusions combine to indicate a strong positive effect on student motivation. They also indicate no negative effects on self-esteem, an observation substantiated by the sports psychologist.

With respect to the capacity of smartphone technology to help develop the students’ kinaesthetic awareness, this technology provided the students with immediate visual feedback for self and peer review. We observed that when the students performed the movement sequence for the second time, after they had reviewed, analysed, reflected upon, and implemented their own corrections, the accuracy, range and dynamics of their movement dramatically improved. The students’ intention of what they thought they were doing, what ‘the doing’ felt like, and what it actually looked like were clearly converging. This contemporary application assisted the students to achieve a greater sense of kinaesthetic awareness about their dancing, evidenced by us and also reflected in the data from the questionnaire and focus group.

In the day-to-day teaching of dance technique, it is our experience that providing a student with verbal feedback from the lecturer generally contributes to improvement. However, the application of smartphone technology as an enhancement in the provision of feedback during the dance technique class and the immediacy of viewing this feedback has produced rapid positive results in the technical development of the students’ dancing. The sensorimotor intentions of the dancers became more closely correlated with their danced outcomes. The majority of the students remarked that the application reinforced and clarified what they hear from the teacher.

The introduction of smartphone technology as a contemporary application in the technique classes did not impede or distract the student’s training. In fact, data from both the student questionnaire and focus group showed that the students found this to have a very positive impact on their learning. A high level of acceptance of this smartphone technology was demonstrated.

In conclusion, our research has shown that the incorporation of smartphone technology in the dance technique class is an extremely rewarding, valuable and constructive teaching and learning tool. The students’ enthusiastic and enlightening comments from both the questionnaire and focus group support this conclusion. The introduction of this smartphone technology has enabled us, as lecturers in dance, to contemporise our teaching practice of tertiary dance students and more firmly situate our practice in the 21st century.

Future research and applications

Future research and applications involving smartphone technology will focus on charting a cohort of students from entry into the BFA (Dance Performance) course to their completion. We are interested to understand how this smartphone technology as a teaching and learning tool will impact on the long-term outcomes of student learning. To complement this future research another strategy we plan to incorporate will involve the potential for summative assessment, based on the student making
an argument for her/his own progress, through an oral presentation. Documented evidence derived from data collected by the students during technique classes will be uploaded by each student onto their individual google site. A component of the oral presentation will involve students accessing their google site in order to present the data and substantiate their argument regarding the development of specific aspects of their dance technique such as mechanics, dynamics and performance.

The hybrid methodological approach established by this research may well prove applicable in the scholarly investigation of other forms of teaching interventions. This successful application of smartphone technology offers exciting pedagogical possibilities in other areas of education, forging a new bridge between the dance studio and the academic arena.

1. The Consent Information Package for Participants is available on request from the authors.

References


The work contained in this paper has not been previously submitted, published, or accepted for publication elsewhere. To the best of our knowledge and belief, the paper contains no material previously published or written by another person except where due reference is made.

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Biographies

Csaba Buday is lecturer in contemporary dance and resident choreographer for the dance discipline in the Creative Industries Faculty at QUT, Brisbane, Australia. Csaba has had an extensive career as a performer, choreographer and teacher spanning over 31 years. He has choreographed a total of 41 major works that have been presented in Australia, Asia, the Middle East, Europe, the United Kingdom and the USA. Between 2000 and 2003 Csaba held the position of Artist-in-Residence at the Hong Kong Academy for Performing Arts. Csaba graduated from QUT with a Master of Arts (Research) and the Australian Ballet School with a Diploma (Dance).

Brisbane born Evan Jones studied dance with Elsie Seguss, achieving R.A.D. Solo Seal, 1968. Further dance studies at Rosella Hightower’s Centre de Danse International in Cannes, France was followed by professional dancer engagements with Marseille Opera Ballet; Roland Petit’s Ballet Nationale de Marseille; Gerhard Bohner and Morley Wiseman at Staatstheater Darmstadt; Fred Howald, Egon Madsen and William Forsythe at Ballett Frankfurt. He served as ballet master with artistic director Andris Plucis, Staatstheater Darmstadt and in 1997 was appointed lecturer in ballet at QUT. Evan has a Master in Education degree and has published on intrinsic motivation, assessment, reflective practice and embodied literacy.