The extent to which Fosse choreography can impact the quality of voice production with suggested teaching strategies to counter any potential vocal issues that are found amongst musical theatre tertiary students during rehearsal.

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Word Count: 4075

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INTRODUCTION

As a performer, musical director, and tutor in musical theatre, for the past fifteen years I have consistently been faced with same dilemma when combining singing and dancing:

Do you simplify the choreography so the performer can sing more technically correctly, or do you forgo technically proficient singing so that the performer can execute the choreography more accurately?

As a performer I always veered towards the latter and often suffered vocal fatigue as a result. But as a musical director, I try and convince my performers to do the opposite. I have had one too many exasperated debates with choreographers, with both of us is insisting that "my cause is more important than yours". But as a tutor now, I am in a unique position where if I am able, will try to formulate a teaching methodology on how I can teach my young musical theatre students to do both, ensuring safe and responsible practice that will help the longevity of their future careers.

> Over a prolonged performance [the combination of singing and dancing] could lead to reduced dance intensity and/ or compromised movement and/or singing. Choreographically, lead singers have simplified dance repertoire so that their singing is not compromised … and therefore is potentially vulnerable to compromised movement quality.
>
> (Stephens et al., 2020, p.7)

When I start the process of rehearsals for a musical with my students, we start with teaching the songs of the score in meticulous detail and then begin the task of identifying how to technically approach certain notes and phrases. The general rehearsal of the show involves separate sessions for choreography and vocals: students learn the dance routines to music tracks, while singing and harmonies are taught separately, usually with students standing in a static posture. However, when combining singing and dancing, notable vocal issues that I physically observe in my students include lapses in breath support, and visible extrinsic muscular tension. Audible discrepancies observed include the over compression of the vocal folds, and variances in pitch. Verbal feedback from students includes the noticing of increased vocal fatigue and the feeling of tightness in the back of the throat.

Complex choreography styles, such as that of Bob Fosse, when combined with singing presents a unique set of challenges for performers. Bob Fosse was a choreographer-director who significantly impacted the global perceptions of dance and choreography in

musical theatre and film during the latter part of the twentieth century. His work was technically and physically demanding, visually distinctive and uniquely based on his own physique and physical limitations.

According to my research, I will present evidence that the style that is specific to Fosse incorporates postures and alignments that are fundamentally thought incorrect for good vocal technique. I will explain why this is, as well as why these specific postures must be maintained regardless, to stay true to the Fosse aesthetic. I will then formulate potential teaching strategies that may help the performer find the best compromise to stay true to both the technical vocal and dance requirements.

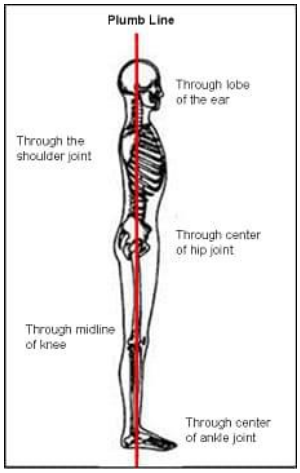
THE IDEAL POSTURE FOR SINGING

The importance of body posture for technically sound vocal production is firmly established in the scientific literature.

> Posture, mental attitude, and genetic propensity determine the alignment and balance of the body, and good bodily alignment is the beginning of efficient breathing and fundamental to healthy singing.
>
> (Dayme, 2009, p. 67)

When looking at vocal production, Ruben et al. (2004) suggests that body posture directly impacts proper closure and vibration of the vocal folds, as well as plays a crucial role in achieving good respiratory and resonance function.

One popular representation of an ideal postural state is the plumb line.



According to Kendall et al. (2005) the plumb line is an imaginary vertical line drawn from the top of the head to the feet. It should ideally intersect the external ear, pass through the midpoint of the shoulder, be slightly behind the centre of the hip joint, slightly in front of the axis of the knee joint, and slightly ahead of the lateral prominence of the ankle joint.

According to Casillo-Allendes et al. (2022), whilst the plumb line can be considered the golden standard to describe the ideal postural state for voice production, older studies that refer to this have been shown to use a lack of biomechanical measurements and analysis to prove this state is the best for singers. Therefore, there is inconsistency in the published literature regarding topics such as descriptions of body postures, adaptations in posture, monitoring of postural muscles, and what their potential impact on voice production is.

Gould (1971) advocates that when examining posture within the realm of musical theatre, it's essential to view it as a dynamic condition rather than a static one. The term "dynamic" holds significance, implying a stable yet flexible alignment rather than a stiff and inflexible one, which promotes fluid and seamless movement. Adjusting a rigid posture demands extra muscular exertion, leading to a feeling of bodily weightiness. In contrast, maintaining dynamic alignment in posture creates a sensation of lightness and easy mobility, ideally suited to a singer who needs to dance at the same time.

However, according to Castillo-Allendes et al. (2022) research indicates that adjusting posture leads to heightened activation of respiratory muscles, decreased activity in laryngeal muscles, and compensatory muscular responses at both respiratory and phonatory levels. Conversely, heightened muscle activity and tension adversely impact inspiratory volume by positioning the respiratory muscles in a shortened state.

THE POSTURAL PARADOX

Fosse choreography is crafted a through a vocabulary that was uniquely his own, that diverged significantly from foundations of jazz dance (Young, 2008). His choreography comes with its own dance aesthetic that serves as its own form of communication, further developing character and plot within each musical.

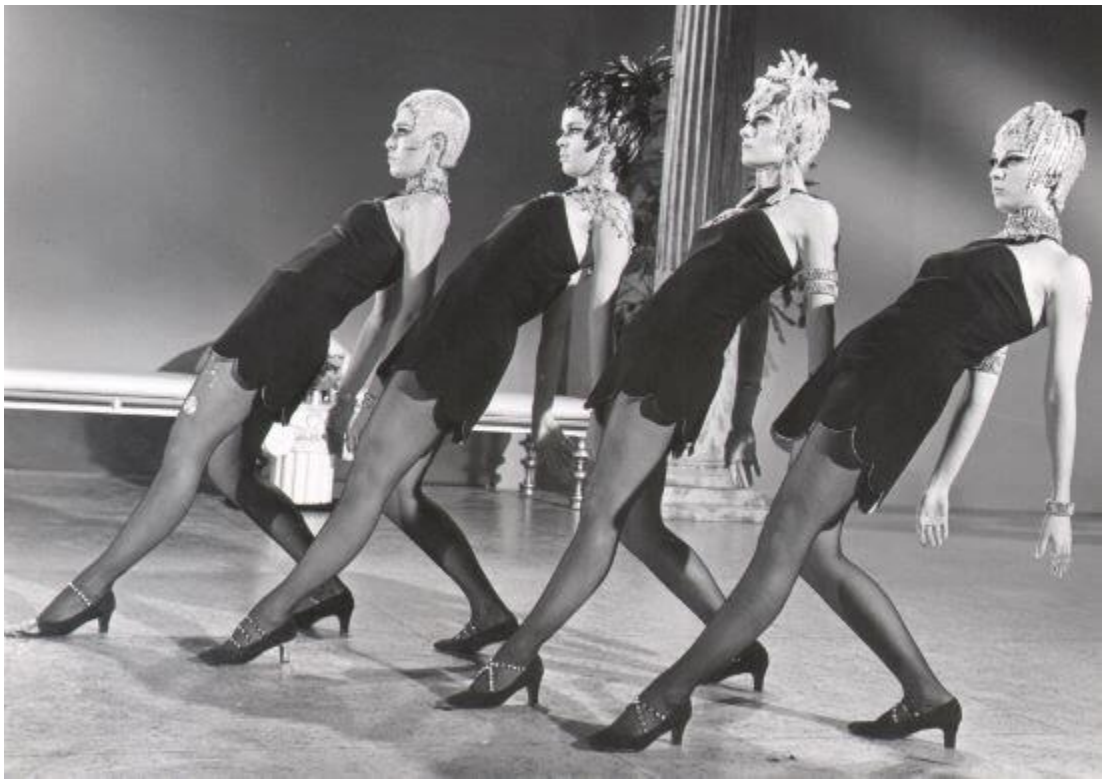
> The Fosse idiom wears a decidedly urban look built on the foundation of the gyrating body. Pelvis grinds, undulating shoulders, backward leans, hip isolations, and turned in feet subject to a tremendous economy of movement describe the essence of that idiom. Everything is earthbound, physical, percussive, and sexy.
>
> (Kislan,1987, p.105)

Fosse’s choreography is constructed through electric and energic movements of the limbs, sharp and isolated head movements as well as hyperextended positions of the head and neck (Young, 2009).

Specific Fosse Posture – The Rake

Whilst jazz dance typically involves a swinging motion, with the body often in a low stance and bent at the waist, characterized by a release of energy, in contrast, Fosse's choreography is characterized by an upright, and controlled style, where executing precision in movements that is more commonly associated with ballet.

The Rake posture and dance move entails the performer to stand and walk in an unnatural position: The performer leans back as far as possible but must maintain a straight back. One leg should then be stretched out at the same time to create an unbroken straight line. The performer holds their arms behind their back (Deal, 2014).



THE FOSSE DILEMMA

The Rake posture has a direct impact on breathing, breath support and larynx position as it requires the performer to lean back, with the spine as straight and aligned as possible.

The impact on breathing

A misaligned body posture, which leads to an altered position of the neck, restricts breathing flexibility, and causes compression of the vocal tract (Morrison and Rummage,1993). We can therefore conclude that this position will impair the performers' ability to breathe correctly.

Hoit (1995) states that to achieve the best breathing and voice projection, it's important to maintain a posture and stance that minimize swaying and tightening of the muscles in the back and abdomen.

Arboleda and Frederick (2008) state that people exhibiting a lordotic posture experience shortened intercostal and abdominal muscles, directly impacting their lung capacity for

inhalation. This limitation restricts the downward movement of the diaphragm and the sideways expansion of the ribs, potentially causing vocal fatigue and difficulties in voice projection.

The impact on breath support

According to Heman-Ackah (2005) to achieve the best breathing and voice projection, it's important to maintain a posture and stance that minimize swaying and tightening of the muscles in the back and abdomen. The legs should primarily support balance, allowing the back and abdominal muscles to be more effectively engaged in breath support. This setup enables these muscles to focus mainly on breathing and supporting the breath.
The Rake posture requires the performer to put the majority of their weight on the back foot, offsetting their balance. This impairs the performer's ability to achieve and maintain breath support when singing, and this in turn impairs the performer's ability to project whilst singing. The singer then overcompensates by increasing vocal compression to try and achieve ideal projection resulting in vocal fatigue.

The impact on the vocal mechanism

The vocal apparatus is surrounded by intrinsic and extrinsic muscles that when tensed can cause singers to "deliver inconsistent performances that rely on effortful singing (such as laryngeal hyperfunction)" (Gates, 2018).
This hyperfunction is associated with the singer applying excessive compression to the vocal folds beyond what is essential for the phrase or song. Consequently, the smooth transitions between registers, leads to pitchiness, and may prevent the singers from utilising their full range, create strong timbre, and limits their dynamic capabilities.

According to Schneider et al. (1997), body posture plays a role in affecting voice production. Phonation, they emphasise, is not solely a consequence of laryngeal activity; instead, overall muscle activity in the body that contributes to the proper functioning of the larynx. The sternocleidomastoid muscle, implicated in this process, undoubtedly mirrors postural issues, and indirectly affects the phonation process. When applying this to the Rake, the sternocleidomastoid muscle is fully engaged as are the extrinsic muscles of the larynx to maintain the head position whilst the back is tilted forty-five degrees backwards.

The Fosse dilemma that we are facing poses several important questions:
Is it physiologically possible to commit to the Fosse Rake position and sing with technical proficiency at the same time?

So far in the literature most research indicates that it might not be achievable. But in a practical context Fosse shows such as Chicago, Cabaret and Pippin have all been successfully executed for decades where the performers have managed to sing successfully in these postural states over an extended period.

So, can we as musical theatre tutors find a methodology that prepares performers to tackle these musicals and lay a technically proficient foundation that provides safe vocal technique?

What would this methodology entail?

POTENTIAL TEACHING STRATEGIES

Educational approaches that could mitigate vocal challenges during the execution of Fosse choreography and simultaneous singing.

STRATEGY ONE: Physical adaptations to standardised vocal exercises

The Hoola- Hoop Vocal warm up

According to Akuthota et al. (2007) strong core stability leads to better equilibrium, posture, and improved efficiency in movement. Consequently, training aimed at enhancing core stability is prioritised for injury prevention and optimizing performance among both everyday individuals and athletes.
The purpose of this exercise is twofold:
Firstly, it will help the student become aware of how engaged core muscles directly affect their breathing and with their hands free they will be able to feel the tension in the extrinsic muscles surrounding their larynx.
And secondly, the students learn how to breathe and sing whilst the core muscles are maximally engaged.

The exercise is simple: Students need to hoola-hoop whilst singing vocal warm up exercises and use their hands to gently hold their necks. The exercise would allow the students to maximally engage their core and then learn to breathe and sing at the same time. The vocal warm up exercises can be adapted from simple lip trills or Semi Occluded Vocal Tract exercises whilst the initial hoola-hooping coordination is happening, to then advance to sustained pitches and ultimately attempting chromatic scales, as Casillo-Allendes et al.

(2022) stated that semitones showed significant differences in the unstable surface when compared to the upright posture.

The shifts in posture and stance from doing hoola-hoops affects the position of one's centre of gravity, and so change the actions of the muscles that are engaged actively in maintaining balance (Heman-Ackah, 2005). This exercise should then be repeated daily as through experimentation and practical experience, the singer gradually refines the equilibrium of tension to provide the necessary breath pressure for a specific pitch and volume level (McKinney, 1995).

STRATEGY TWO: The Rehearsal Schedule

As students are still learning to manage their own vocal pacing and production management, many are unaware of their own personal vocal limits or for example, the importance and advantages of scheduled vocal rest times. Because monitoring and quantifying actual vocal usage is challenging, one teaching tool that vocal coaches can use involves reviewing students' rehearsal schedules (Shewell, 2009).

Stage One: Formulating a Rehearsal Schedule

Planning a rehearsal schedule with allocated times for consecutive rehearsals divided into the three segments, with mandatory breaks for vocal rest in between. Additionally, incorporating cooldown sessions and technical sessions aimed at enhancing coordination between the body and voice would be beneficial.

In my experience, the rehearsal process of teaching a Fosse musical theatre routine can be broken down into three key segments.

Segment 1:

This involves a deliberate, gradual combination of singing and dancing, allowing students to meticulously identify instances where their equilibrium and posture might compromise vocal delivery. Similarly, this phase enables students to discern moments where vocal production might impede physical execution. As state by Rubin et al, (2005) "misalignment of the head and neck region results in adaptive changes to them muscles that elevate the larynx and disrupts pitch control and resonance." Additionally, Heman- Ackah (2005) stated that when the head and neck area are not properly aligned, it leads to adjustments in the muscles responsible for lifting the larynx. This misalignment can interfere with pitch control and resonance.

Segment 2:

In this segment the students will start rehearsing the piece at the intended tempo, executing the routine at its full potential while readjusting any areas where they experience vocal discomfort or compromise. This phase involves the tutor reminding students to engage in good voice production.

Segment 3:

This focuses on building the endurance required for the routine. It involves repeated practice of the routine throughout rehearsals. However, this repetition needs meticulous planning and closely observed, as the risk of vocal fatigue increases with the students' increasing fatigue.

> "Consequently, because of these potentially heavy and repetitive vocal demands, MTS may be a potentially higher risk group for the development of specific types of voice disorders, such as overuse injuries although there is a surprising lack of controlled studies investigating this premise."

Phyland et al.,2013, pg. 390

Stage 2: Strategic rehearsals for combining multiple skills.

This strategy is to help the students amalgamate the dance steps and the music notes into connected, simultaneous performed phrases, without compromising good voice production. This involves using two separate skills: Motor and cognitive.

Schmidt et al.,2008, pg.7 states that

> "A skill for which the primary determinant of movement success is the quality of the movement itself rather than the perceptual decision-making aspect of the task is classified as a motor skill. With a cognitive skill, performance success depends more on the strategy dictating the movement than on the production of the movement itself."

Therefore, by teaching the choreography and the song separately, students can refine the motor skills of each art form. Then by slowly combining them, students start to engage and use their cognitive skills.

CONCLUSION

Whilst applying these strategies could help improve voice production, I found from my research that there is a compelling view that at some point vocal production will be always be compromised during intense choreography. That both the choreographer and the musical director needs to recognise that the integration of singing and dancing impacts the metabolic recovery process of students and that this subsequently could compromise their voice production. And, because the Fosse posture is so central to its aesthetic, this will be

something that the musical director and student must be cognisant of (Stephens et al., 2020).

Within the realm of musical theatre, achieving precise execution of the Fosse style, crucial for capturing its technical aesthetic, can occasionally conflict with optimal voice production. This dilemma necessitates the delicate task of striking a balance, allowing students to deliver exceptional performances while safeguarding the well-being of their voices and bodies.

Fosse once said

> "The time to sing is when your emotional level is too high to just speak anymore, and the time to dance is when your emotions are just too strong to only sing about how you feel. "
>
> Joosten, Michael (September 4, 2009). Dance and Choreography. The Rosen Publishing Group. p. 4.

This is prevalent in so many musical theatre productions that it is necessary to find common and implementable teaching methodologies to combine both art forms successfully.

CRITICAL SELF REFLECTION

When examining various models of self-reflection, two caught my attention. The initial one is Ghaye's Reflective Cycle, specifically for its emphasis on positive self-reflection. As someone who tutors, I've observed that students show quicker recovery and improvement in their work when approached with positivity during feedback. As a student myself, I aim to adopt a similar approach.

The use of reflective practices which are fuelled by positivity and the use of strengths (both performance and character) can reveal new insights and understandings about who we are, what we do and why. (Dixon et al., 2016).

The other model that I wanted to look at is Gibbs Reflective Cycle. As someone who is new to academic writing, the idea of a simplified but well parameter structure is appealing.

> "Journaling with specific structures, such as providing deliberate prompts and strategically posing non-judgmental questions, have been found to promote higher order reflection by creating authentic dialogue."
>
> (Kallaracker and Thomas et al. 2020, p.93)

Therefore, I decided to combine both models for my reflective writing.

Self-reflection One: Finding peer reviewed research on Bob Fosse

In dealing with the gathering of peer-reviewed literature on Fosse, including posture and the physical challenges inherent in executing his choreography, I encountered a significant hurdle. While experts like Ann Reinking and Gwen Verdon offer invaluable insights into Fosse's techniques, their expertise resides primarily in interviews rather than academic papers. And whilst there are plenty of books written about musical theatre jazz dance, in which Fosse's repertoire is analysed I could not find the analysis in the context that I am interested in.

> The major advantage of a peer review process is that peer-reviewed articles provide a trusted form of scientific communication. Since scientific knowledge is cumulative and builds on itself, this trust is particularly important.
>
> (Kelly J, et al. (2014), pp.227)

My emotional response to this hurdle has been marked by frustration, resulting in a period of inaction: starting with the closing my laptop rather abruptly, trudging to the kitchen to put the kettle on and muttering some profanities under my breath to myself or the dog. Of course, I recognise this as a negative response and counter-productive! As described by Sword et al. (2018) this frustration experienced by many academic writers appears to originate from a

distinctly modern issue, emerging within a culture that constantly emphasises increased productivity and impeccable results. Thus, writing has become a reflective mirror, revealing our flaws as we are subjected to the scrutiny of assessors. Preserving our self-confidence necessitates avoiding dwelling on these obstacles.

However, amidst this frustration and this reflection, there have been two positive outcomes: I have had to engage with my colleagues at my new college and ask for any suggestions to help further my research. Networking with colleagues in the dance department has provided me with increased access to dance specific academic resources, and although it hasn't directly addressed my content needs for this assignment, it is a massive academic gold mine if I continue to look at furthering this specific research. The second positive outcome is that I have overcome serious motion sickness and learnt how to read on a train! My commute to work is an hour each way and a brilliant time to read. However, I have impressive motion sickness when it comes to anything that moves. But I've figured out a way around it and as a result I have never read so much in life! My bibliography to be honest is a real source of pride for me, and I have no shame in admitting it.

Reflecting on this experience, I understand that research dead-ends and setbacks are an inevitable part of this academic journey. Moving forward, I aim to develop slightly better coping mechanisms to acknowledge and address my frustration without sacrificing productivity time. Firstly, I plan to incorporate scheduled frustration time-outs into my weekly research hours. I know I work better when I'm mindful of how I'm feeling. So have a small tantrum and then go straight back into it. I think it's important to admit that processing information and academic writing so far, has taken me far longer than I thought and whilst I have gotten into a better weekly routine to work on my research, I need to increase it. As information is scarce when it comes to finding available academic content about Fosse, by increasing study time by an hour or two, I will keep on track with module deadlines.

In conclusion, grappling with challenges in research is a recurring aspect of pursuing a master's degree. Accepting this reality, I am committed to adopting a strategy that enables me to navigate setbacks effectively and continue making progress towards my academic goals.

<u>Self-reflection Two: Potential observation short comings</u>

Currently my students are immersed in rehearsals for their end of year musical, Pippin. A Fosse musical! But right now, I don't know how to conduct both quantitative and qualitative research that I know will be so important for my current topic.

Qualitative research can be defined as an

> Iterative process in which improved understanding to the scientific community is achieved by making new significant distinctions resulting from getting closer to the phenomenon studied.
>
> Aspers, P. 2021, pp 599.

Creswell (1994) defines quantitative research as a measuring system that describes and explains information by collecting and analysing data gathered through mathematics.

As rehearsals commence, I have an ideal opportunity to apply the strategies I am formulating in line with my critical evaluation. However, I feel unsure about how to proceed, questioning whether such endeavours align within the scope of a master's degree and grappling with uncertainties regarding ethical obligations and the daunting prospect of ethics review. I also don't know how to measure any success with my strategies beside verbal feedback from my students, and I'm not sure how scientific that is.

My feelings about this situation are complex. On one hand, I experience frustration stemming from my lack of knowledge about this type of research. On the other hand, I am excited by the relevance of my research to my current teaching practice.

In evaluating my responses, I acknowledge a positive outcome in heightening my critical awareness during rehearsals, particularly in recognising teaching opportunities beyond traditional methods. For instance, observing a student multitasking during a circus master class sparked the idea of incorporating a hula hoop into vocal warm-ups to encourage relaxation of neck muscles. However, there is an underlying anxiety stemming from the absence of evidence validating its effectiveness.

While inspired moments like the hula hoop revelation highlight potential teaching innovations, there is an overarching sense of inadequacy in navigating the practical and theoretical complexities of my research area.

In conclusion, my research endeavours hold promise for direct impact on my teaching and students' performance in musical theatre. However, a specific realisation emerges I must familiarise myself with qualitative and quantitative research methodologies.

To address these challenges, I intend to continue observing rehearsals and consider filming segments for future analysis. Additionally, I will prioritise learning about research methodologies to bolster my confidence. Obtaining consent from students for filming sessions will ensure ethical integrity throughout this process.

When I started my formative assignment, I spent hours debating if I had the intellectual and writing ability to complete my masters. So, when I completed it, it was by biggest achievement for 2023. This assignment has been the complete opposite. I have thoroughly

enjoyed seeing my work progress into a piece of writing that I think is passable for my first summative assessment.

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PERSONAL DEVELOPMENT PLAN

Aspect	Tangible Actions	Objectives	Timescale
Academic Writing Skills	1. Watch online courses on academic writing: • 5 videos on Academic Skills • 12 Videos on Research methodologies	• Master the principles of academic writing language. • Understand Harvard referencing and citation rules. Improve citation accuracy and consistency. • Work with Helen!	Academic Skills roughly 3 hours Research roughly 17 hours • April: Complete Academic videos • May – August: Complete Research videos
	2. Utilize OneNote for referencing and article storage.	• Learn how to effectively organize and store academic articles. • Practice using OneNote for citing sources and keeping track of references. • Sort out Google Drive for master's storage	• Sit with Robyn or dad next week before leaving Scotland (by the 11/04)
Practical Teaching Advancement	1. Enrol in an Alexander Techniques or Feldenkrais practical course. 2. Speak to NCUC for potential sponsorship.	• Gain practical knowledge and skills in body mechanics and movement. • Enhance teaching abilities through experiential learning. • Incorporate new techniques into teaching methods and for research.	• Complete if possible, by end of 2024

Aspect	Tangible Actions	Objectives	Timescale
Online Knowledge Advancement	1. Watch videos available on the Voice Centre's resources library.	• Expand knowledge in areas relevant to teaching and communication. • Stay updated on industry trends and advancements.	• Try and complete 1 video per week.
Study Time	1. Dedicate Monday afternoons for masters. No additional teaching and/or rehearsals in that time!	• From 4pm- 9pm every Monday night: 1 hour to watch a video from library and the remaining time to read and write.	• From start of semester:15/04 – 20/05 • Half term: 27/05- 03/06 (Can commit to daily writing)

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