Berklee College of Music

Musical Alchemy:

Towards Production Mastery

Submitted in Partial Fulfilment of the Degree of

Master of Music in Contemporary Performance (Production Concentration)

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Abstract

The purpose of my project is to develop my skills as a music producer. Analysing what a great producer does, and for what reasons, to turn music into gold, and practising the skills required, supports my professional aspirations of becoming a sought-after producer and studio musician. As well as conducting research on great producers, I recorded and produced twelve songs sung by seven different artists across a range of genres, and sought feedback from the artists and engineers I worked with. During the process of reflecting on each production experience and applying what I learned to the next one, I discovered that the role of the producer is varied and complex, requiring a wide range of skills over and above musicality and technical competence. As well as developing my own production skills and bringing original music from new artists to the profession, I hope that what I discovered during this early stage of my journey towards production mastery will help other aspiring producers better understand the nature and challenges of the role and the range of skills likely to be required to become a great producer.

Keywords: creative project, production skills, musical alchemy, artistic decisions, Pro Tools

1. Introduction

Reflecting on the elements that led to my project's objective and formulation, I realise that the seeds were sown during my childhood as it was here that my musical journey began. Growing up, I was immersed in music; listening to my parents' albums, going to gigs, and enjoying jamming sessions with friends at our house. At seven, I remember being inspired at the Nice Jazz Festival by performances from Robert Plant, Chic and Dr. John. At fourteen, I experienced my first rock festival. I remember the reactions of the crowds and wondered at the emotional impact that music can have on people and how it brought people together. Everyone was there for the same reason – to enjoy the music. Learning more about the different artists I enjoyed listening to and seeing live, I began to realise that being a professional musician is not just about writing songs, playing instruments and performing; it's about dedication to a craft, building a brand and a business, and being fuelled by the desire to make a difference to people's lives. Starting out on guitar and piano aged eight, I then became fascinated with rhythm and started drumming aged eleven.

Knowing I wanted to pursue a career in music, I commenced my academic studies at college. The more I learned and the more I collaborated with fellow students and tutors, the more my taste expanded from my initial passion for classic rock and blues to include other genres such as jazz, funk, Latin and fusion. I have been particularly inspired by the bands Snarky Puppy and Lettuce whose music I performed for many of my performance assessments.

I developed a keen interest in learning new techniques, both on my principal instrument and techniques for composing, arranging and producing. My ensemble experience with acoustic duos, big bands and concert orchestras helped me learn new techniques to enhance my playing. I found production fascinating and enjoyed practising on the desk in the studio and mixing at home using a variety of DAWs such as Pro Tools and Logic Pro. For my final project at university, I composed, arranged, recorded and produced an album. This was a fantastic learning experience during which I learned that, to deliver a project like this requires not just musicianship or a vision. It requires skills and knowledge, hope,

optimism, and determination. It requires appropriate resourcing, planning and organising, motivating all those involved, engaging them in the vision, and ensuring effective communication.

On coming to Berklee, although I knew I wanted to have a career in the music industry, I was unsure about what exactly I wanted to do because my musical interests are so wide and varied. It wasn't until the sessions with Gregg Field and Banda Magda that the fog cleared and I realised that producing was definitely the path I wanted to pursue. Being a drummer myself, I was particularly inspired by Gregg's visit; so much so that I now cannot imagine a happier life than doing exactly what he does to make a living. I also came to learn that aspects of the music industry I love most and want to learn more about are encapsulated in the role of producer. Depending on the artist, the role of producer can take many different shapes and requires versatility and adaptability, qualities which I believed would play to my strengths and could put to good use as a producer as well as a drummer. Hence my reason for choosing this particular project on production. It made sense for me as a musician because, during the course of the project, I knew I would be able to create opportunities to develop my skills in the areas that most interest me professionally. Furthermore, as I would still like to perform, particularly as a studio musician, I believed that learning how to produce would make me a better studio musician and vice versa.

2. Culminating Experience

Musical Alchemy: Towards Production Mastery has been primarily a creative project combining research, practical application of production skills and business planning, where my role was a producer of other artists. I chose this topic because, as well as playing drums at a professional level, I aspire to make a living in the music industry from producing. Furthermore, I want to be a producer who is highly regarded and sought-after by artists; artists who are looking for a producer who can, using the alchemy analogy, turn their music into gold, producing a record that is more than the sum of the individual parts of the music itself (Shepherd, 2009). Undertaking this project would, I believed, help me develop the knowledge and skills I require to achieve my professional goals and ambitions.

The main purpose of the project was to develop my skills as a producer by creating a work (The Work) comprising of five different songs by five different artists produced by me. Key research questions were:

- *What does a great producer do?*
- *What are the skills required of a great producer?*
- *For what reasons do artists seek the services of a producer?*
- *How does a great producer take a song or a piece of music and 'turn it into gold'?*

I was particularly interested in finding out what makes a 'great' producer, as opposed to one who fulfils the basic functions of the role.

3. Objectives

My overall goal for this project was to develop and enhance the skills I require to be a sought-after music producer. To support achievement of this objective, my sub-objectives were to:

- research views on what a great music producer does
- reach a conclusion about the skills required to fulfil the role of producer
- establish why the services of a producer are sought or required
- present a view on what a producer does to create a piece of music that is more than the sum of its parts
- develop and apply my production skills
- produce five different songs for five different artists
- create a show-reel for presenting the work
- create a plan for making the work publicly available.

4. Methodology: Plan of Action/Process/Resources

The research aspects of the project were conducted using a qualitative approach, combining action research with model observation. Key sources of information were published interviews with top producers which enabled me to observe, analyse and reflect on what they do, and how and why they do it,

gaining some insight to the criteria they employ to make artistic decisions, and for what purpose and intent. I also 'researched myself' in that, as well as seeking feedback from the artists and engineers with whom I worked, which added a quantitative element, I consciously thought about and learned from my collaborations with the different artists, assessing the process and outcome of each experience, and applying my learning to the next collaboration. Adopting this approach has enabled me to improve my knowledge and skills on an ongoing basis and has therefore helped me start to develop and construct my own identity as a producer.

At the project proposal stage, I developed a clear plan of action, outlining what I would do and by when, and listing the resources and tools I thought I would need. Aspects of the project that went to plan and met my expectations were the identification of five artists to work with and the overall process of rehearsing and recording before going into the studio to mix, master and produce the tracks. Having my project plan helped me approach the project methodically and manage it effectively to ensure I was doing what I had intended to do within set timescales to achieve the project objectives.

Initially, I felt that I was well-organised and managing my time effectively, and was pleased that I was getting everything done that I wanted to. In fact, I was so much on track that I decided to produce twelve tracks instead of five! Although I was well aware of how much extra work this would involve, I was being fuelled by my passion and enthusiasm and really wanted to make this work. I will reflect on this decision in the next section on results.

Other than the decision to record more songs, most other aspects of the project went to plan. However, there were certain tasks that took a lot longer than expected, editing in Pro Tools for example. I didn't realise the level of meticulousness required to perfect the tracks, mainly in terms of timing, but also the cleaning up of certain notes or phrases and comping. Everything these days is super tight in terms of timing so I wanted to make sure everything I was doing was too. I used the groove templates in beat detective (part of Pro Tools) to create the groove that I wanted. In the case of *We Should Stick Together*, I went through 20 variations of 16^{th} note swing quantization until I found the one that grooved the hardest.

Also, once I had completely tightened up the drums and bass, I moved the bass back 10/20 milliseconds so it sat a little behind the drums and this I found worked best.

In terms of producing videos, I realised that I was being a bit unrealistic to think I could video twelve songs in the time available as I wasn't aware of the time that it took to complete other parts of the process, such as editing. The cost of videographers was also a factor that I hadn't previously considered. I therefore have one edited video and three unedited, and will be submitting the edited one, *Northbound Train*, for my Culminating Experience portfolio. The editing of the other three will be completed at a later date. I feel okay about this decision as I have learned that, when working to a timeline for delivery, objectives need to be realistic and that the tasks required to achieve them must be well thought out and planned, perhaps allowing time for unforeseen eventualities that could cause the project to slip.

The hardware/software resources I used met all my expectations, with everything working as expected. Although I had trouble booking the studio at times, this wasn't too much of a problem and I always found a way round it. Scheduling rehearsals and sessions with busy musicians was a particular challenge in terms of resourcing, although not entirely unexpected. And, in hindsight, I should also have added the snacks I provided for the studio musicians to the list of resources!

5. Execution and Results

In this section, I detail the process, development and results of The Work and analyse the steps followed and results achieved in relation to the project's objectives. The completed work is comprised of recordings of twelve songs sung by seven different artists across a range of genres, with a supporting video for one song and three in the making.

I started out by telling people about my project and that I was looking for artists to work with. Thankfully, this generated some interest; otherwise there would have been no project! My criteria for deciding who to work with was based on my liking the artists' music and whether, stylistically, it was sufficiently different from the artists who were already on board because I wanted to work with a range of different styles. The key element of every music production is the song because "…if you don't have a great song or songs, you won't have a great record" (Owsinski, 2016, p.59). I liked all of the songs I

selected for production and thought they were good. However, on reflection, I realise that my only criteria for deciding whether the songs were good songs was based on the fact that I personally liked them. In future therefore, I will develop more solid criteria to help me make such decisions. I'll do this by learning more about what is thought to be the key elements of a great song so that I can approach songs more analytically and objectively to decide whether or not they are 'great'; considering song structure, melody, lyrics, arranagements, and dynamics for example, and considering what works commercially and in line with what the artist aspires to achieve. After all, whatever I do as producer should always be in the best interests of the artist.

It was at the initial meetings with each artist that I came to understand what it was they wanted to achieve. I did this by asking them questions and listening to what they had to say. Having this understanding really helped us shape the song for the final production. I was pleased that all artists were open to giving me a certain extent of creative license with some aspects of their songs, and my ideas for adding, removing or changing things were in the main taken on board. With *Northbound Train*, I pretty much changed the style of the song from folk to gospel/blues-soul. At first the artist wasn't sure about this; once she'd heard it a few times though, she realised that this style fitted the song very well.

Four of the seven artists asked for my assistance with arranging and charting which I was only too pleased to do. I especially enjoyed arranging the cover of *Georgia on My Mind* because I really like the style of the music and had a lot of fun writing the horn lines and re-harmonising it (this was done in collaboration with a student from the SFTV Masters programme). *Georgia on My Mind* and *Just Friends* probably have the most of me in them because these were the two songs that contained my ideas from scratch - style, chord changes, horn arrangements, form and instrumentation for example.

Conducting the rehearsals taught me that I would benefit from having more teaching, or rather 'classroom control', skills to enable me to run more efficient rehearsals in future. Although I was always well prepared and made sure that the charts were printed and taped beforehand, when we were rehearsing *Georgia on My Mind*, I found it quite difficult at times to retain the attention of some members of the band who were frequently distracted, noodling on their instruments and chatting over me. Also, in future I

will make sure I have each individual part as specific as possible before the rehearsal so that less verbal direction is required, with more reliance on what is in the charts. If all the music is well-written and the forms clear, there is little room for opinions and comments which helps expedite the recording process.

When in the studio recording *Northbound Train*, we decided to record the organ, although didn't use this later. This emphasises the importance of being sure of the arrangement before going in to the studio. All in all though, the studio sessions ran smoothly and I like to think that this was due mainly to my organisation skills. The only thing that didn't go so well was that, sometimes, people didn't know their parts properly which I found frustrating because it wasted a lot of time.

In terms of equipment, the decisions I made about what equipment to use depended on what we were aiming to achieve. Examples were pre-amp choice, outboard processing, such as EQ or compression, microphone choice and microphone placement. I found Berklee's Microphone Guide (see ***Appendix 1***) to be a useful resource in cases where I wasn't sure which microphone to use. The choice of the instrument itself and the tuning of it was also a key element. With drums, I had several kits to choose from and my choice depended on the sound I was looking for. Sometimes, I mixed and matched parts of the kit, and selected appropriate cymbals depending on whether I was going for a dark or bright sound. The choice of musicians was also a huge part of creating the desired sound.

With *Northbound Train*, I recorded the piano hammers instead of the strings to achieve a more direct and punchy sound which I thought was more appropriate for the blues/soul/gospel style. During *Just Friends* and *Ladybird*, I used dark cymbals and dark microphones because these were jazz recordings. For *Ladybird*, I also tuned the drums very high to achieve that jazz tone from the drum kit and used the Canopus instead of the DW drum kit.

The most surprising thing for me about the production process was discovering how long the editing process took (see ***Figure 1***). I didn't even realise that editing would be part of the process; I just thought that what was recorded would be good enough for then mixing and mastering. I now realise that the better the recording, the arrangement, and the musicians' skills and performance, the better the produced track will be.

Figure 1: Total hours spent on producing the songs

	Artist Meetings	**Arranging & Charting**	**Rehearsals**	**Studio Sessions**	**Editing, Comping, Mixing & Mastering**
Hours	**25**	**31**	**13**	**136**	**218**
% of total (423) hours	**6%**	**7%**	**3%**	**32%**	**52%**

As well as learning that a producer can spend many hours editing, I also discovered that a producer can sometimes be called upon to help with arrangements and charting, and that it is important to be completely sure of the arrangement before going into the studio. I realised this because, although I had done the arrangements before going into the studio, there were occasions where I had not arranged specific enough parts for a particular instrument. This meant more time was spent discussing and agreeing the arrangement when in the studio and was therefore a waste of studio time.

Other lessons learned were that it's better for the producer to be part of the whole process from start to finish because I found that I had more control over the outcome when I was. Fortunately, I came to realise this in the first session, not in the last!

Reflecting on my decision to produce twelve songs instead of five, I am very glad that I decided to do this because it has pushed me very hard, and I have learned much more and improved my skills hugely as a result. Although I may not have finished everything I wanted to, the important thing is I learned a lot and improved my skills more than I would have done had I just produced the five songs. It also helped me to understand exactly how long each process takes which will help me manage my time effectively in the future.

5.1 What does a great producer do?

Being interested in finding out what makes a 'great' producer, as opposed to one who fulfils the basic functions of the role, the first step was to research what these basic functions were. Typically, job descriptions list key duties and responsibilities as being, for example:

- arrange, and be on time for, meetings with the artist
- make decisions about song arrangements, instruments and equipment
- organise the hire of session musicians
- prepare a production plan
- manage the budget
- record instruments and vocals
- work with the engineer to mix and master the tracks
- keep the record label informed of progress
- promote the artist.

Completing this project, however, has taught me that there's so much more to mastering production than just preparing a production plan and knowing what buttons to press, and that a great producer does indeed wear many hats. Not only is the producer the *project leader* and manager, responsible for the project's success, as Owsinski (2016) observes, the producer also has the role of: *financier*, responsible for the budget and negotiating deals with, for example, the studio, the musicians, and the food suppliers; *creative director*, seeing the overall vision for an album; *casting director*, choosing the right musicians for the project; and the *diplomat*, bringing harmony to the creative process and creating a comfortable environment where the musicians will give their best. As Jones (2010, p.69) says, "…if they don't feel the love in the room, they won't be able to feel the spirit of the music". I myself became aware that the artists I was working with needed to be encouraged and made to feel as comfortable as possible; it wasn't anything in particular that led me to this conclusion; I just found that they performed better when they felt comfortable. One artist wanted the lights dimmed for example, and others just needed a snack so I was pleased that I'd thought to have these on hand.

Reflecting on my own experience during this project in terms of what a producer does, I became aware that a producer also plays the role of 'teacher', or 'coach', in the studio, bringing out the best in musicians, and having creative input to improve arrangements and perfect the small details. I soon realised that, as well as assuming a teaching role, I was also the learner, not just in terms of learning from the process, but also learning from the artists I worked with, each of whom had something to teach me about themselves, their talent, their aspirations – and even life itself in terms of their outlook. (See ***Appendix 2*** for my version of a producer's role profile, including the job purpose, key duties and responsibilities, and the associated qualities and skills required.)

The difference that makes the difference I think between a 'producer' and a 'great producer' is what they bring to the party over and above the science of production and their technical competence. Examples are: the quality of the relationships they build with all those they work with, relationships that are based on mutual trust and respect; their artistry and the artistic decisions they make; and their commitment to the artist and the song. In short, a great producer brings 'art' and the 'human factor' into the equation. As I have aimed to reflect in my own version of a producer's role profile, it's not just about knowing and doing; it's also about 'being' and what the producer is like as an artist and a person.

5.2 What skills are required of a great producer?

As the producer has so many hats to wear, each role requires a different skill-set; I have learned that there is so much more to producing music than just technical skills and musicality. For example, a producer requires skills associated with leading a team and managing and delivering a project on time and within budget, in addition to "striving for and achieving professional standards of fidelity and musicality" (Webber, 2017). Effective collaboration and communication are essential for moving the project forward and resolving issues and solving problems along the way. As Korkright (2017) observes, "…facilitating communication is the cornerstone of a producer's job". (See ***Appendix 1*** for further detail on the skills required of a producer.)

My own experience during this project has reinforced the role of producer as project manager, making sure that everything is done on time and to budget. The skills I think I was best at were organising

activities and resources, arranging music, paying attention to detail, and providing moral support to the artists. I did however realise that I need more experience with Pro Tools and mixing. For example, I could work more quickly and effectively if I knew more about keyboard shortcuts and how to get the most out of the software. As is stands, I am probably familiar with only 50% or 60% of the software features. Having more experience of mixing would be helpful too because the producer is required to do this at times. A good mixer will have a good ear for technical matters and small details and will quickly identify a need for more compression for example, or an EQ boost at 1k, or a cut at 400. Other examples are a smaller tail on the reverb, or changing the reverb type.

The main challenge I faced was in respect of managing the musicians I needed to support the artist's work. I found this difficult at times, partly because there are egos to manage, but especially in respect of finding times to rehearse and record with people who were extremely busy. Even just getting people on board was difficult due to their busy schedules. I also encountered some difficulties with differences of opinion between either me or the artist or me and the engineer. I resolved these difficulties by persuading them to try out both suggestions to establish what worked better and was pleased when they decided to go with my suggestions.

Where the artist was concerned, I found myself biting the bullet on a couple of occasions, as I wanted them to have the final say in the matter on the basis I was there to help them achieve their artistic vision. Although Owsinski (2016, p.16) states that "…a good producer will be the final decision maker in any creative argument (especially one between band members)", I felt that I wasn't quite at that stage yet; in any case, Owsinski also points out that, even if the producer defers to the artist's creative vision (which most producers will do), it's still the producer's decision whether to defer or not. I therefore felt okay about deciding to defer the final decision to the artist.

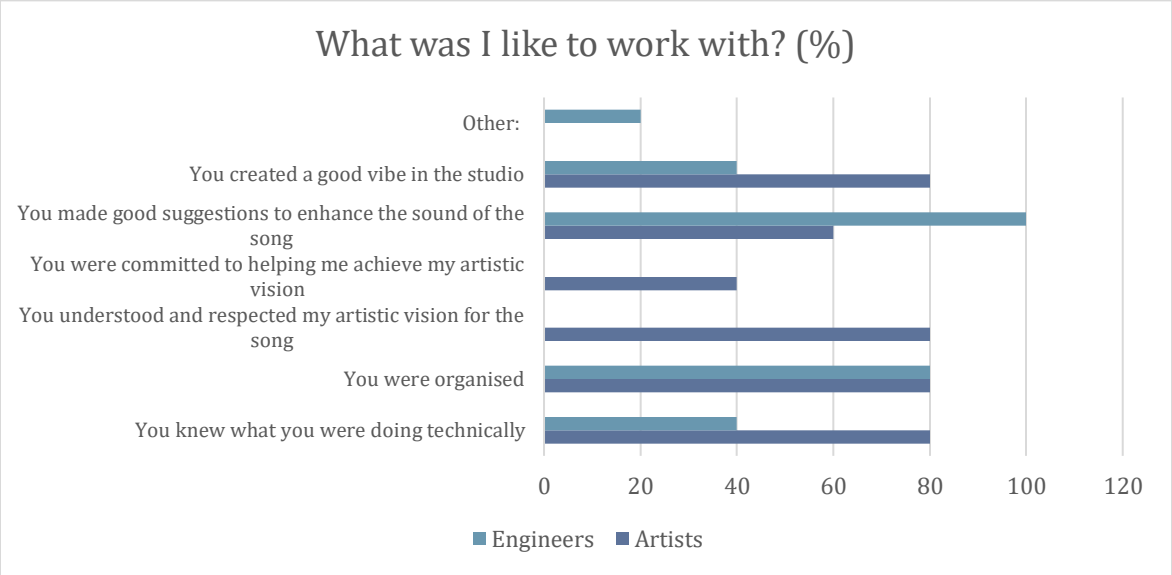
To help me reflect on and improve my performance as a producer, I sought feedback, in the form of a survey, from the artists and engineers I worked with. At the time of writing, I have feedback from five of the seven artists and five of the six engineers. One of the questions I asked was: *What was I like to*

work with? See ***Figure 2*** for the results which I find extremely interesting and insightful because they highlight the differences in perception from both an artist and engineer perspective.

Twice as many artists than engineers thought I created a good vibe in the studio and knew what I was doing technically. I'm not really surprised that more artists than engineers thought I knew what I was technically because the engineers have so much more technical expertise than I do and would be looking at this from an engineering perspective, whereas the artists weren't so much aware of what goes into the technical side of production and what knowledge and skills are required.

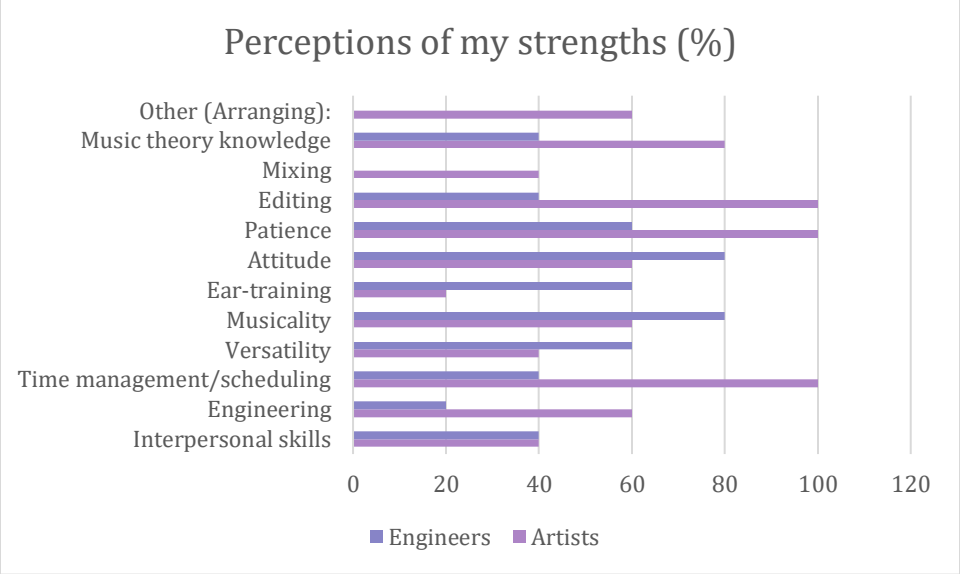
The 'other' comment was from an engineer who thought that I didn't allow them to do their job, and disregarded their recording suggestions. I feel okay about this because, although I welcomed input from the engineers, I think the final decision rests with the producer as leader of the project. Further, it is the producer who best knows the artist and what should be done to help them achieve their artistic vision. Although I would do the same in future, I will think about how I communicate these decisions and make sure the engineers know I appreciate their input, yet understand my rationale for making the decisions I do.

Figure 2: What was I like to work with?



In terms of what the artists and engineers perceived as my relative strengths and weaknesses as a producer, as ***Figure 3*** shows, all five artists cited my time management/scheduling, patience and editing as being particular strengths. I am very pleased with this result because I put a lot of effort into organising and scheduling activities and resources, being patient (even at times when I didn't feel like being patient!), and spent many hours editing, an activity which I hadn't expected to do, yet which the artists seem to have appreciated. Top strengths perceived by the five engineers are cited as being musicality and attitude. Again, I'm pleased that they thought this because a producer needs to have both musicality and a good attitude towards all those involved in the project.

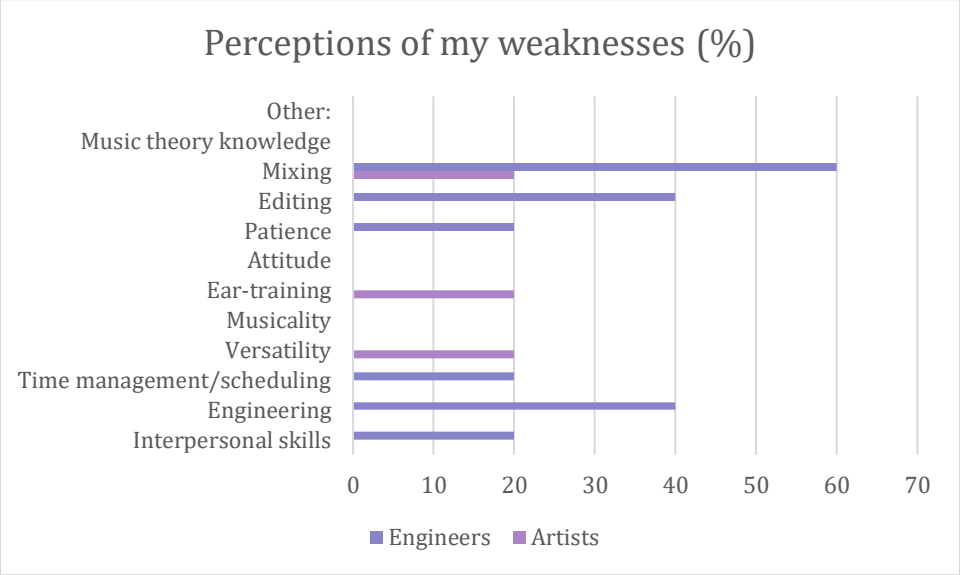
Figure 3: Artists' and engineers' perceptions of my strengths



In terms of weaknesses, artists mentioned mixing, ear-training and versatility (see ***Figure 4***). For engineers, the main weaknesses are mixing, editing and engineering - fair comment considering their professional expertise! Am not too sure how I feel about versatility being perceived as a weakness so will give this some further thought as I would like to be known for being a versatile producer; maybe I was a bit too assertive with my suggestions and need to be more mindful of how I put these across. I know myself that I need to work on the other aspects mentioned, and am aware that mixing for example could

take years to master! Mixing and ear-training go hand in hand I think because mixing is really a different type of ear-training, in that, instead of recognising a wrong note in a phrase, or an unwanted chord extension played by an instrumentalist, mixing is about recognising certain frequencies and deciding whether something needs less low-mids around 300, for example, or that the compressor might need a faster attack or a slower release.

Figure 4: Artists' and engineers' perceptions of my weaknesses



Although patience was highlighted as a particular strength, one engineer saw this as a weakness on the basis that I was *"...getting too much into the engineering side when an engineer is there to do that job"*. For me, this highlights the importance of understanding the roles of all those involved in the project and agreeing respective roles and responsibilities up front. It has also made me think about my own development as a producer and how much into the engineering side I want to get. On balance, although I want to learn more about the engineering side, I want to work with great engineers and should therefore understand and respect their role – and ensure mutual understanding of what we are each there to do.

Other questions asked in the survey to help me develop my production skills were:

1) *Was there anything about my production process that stood out to you or that was unique?*
2) *If there is one thing I could have done to make the whole production experience better for you, what would that be?*
3) *What other feedback do you have for me?*

See ***Appendix 3*** for responses.

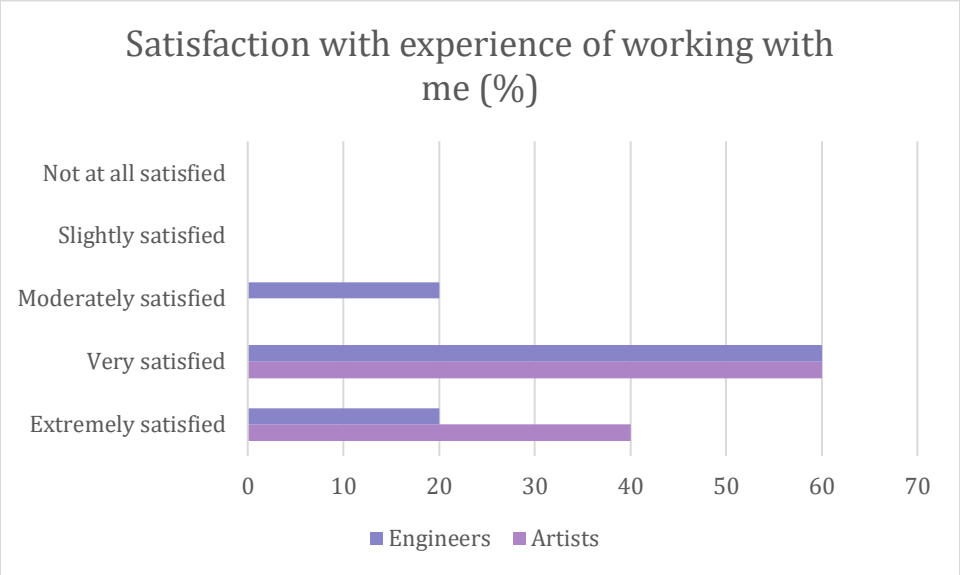
I am very grateful for this feedback because it has taught me that:

- production is not just effective collaboration with the artist; it's about working with a team of professionals, all of whom bring their own areas of expertise to the project and have their own role to play in delivering the artist's vision
- my desire to learn more about engineering does not make me an engineer(!)
- a producer earns respect by giving respect
- it's important to be organised, versatile and solution-focused, and to remain calm when faced with difficulties so that problems can be resolved and challenges can be overcome
- being transparent and authentic, and always acting ethically and with integrity is an absolute must; I should have discussed my intention to have others re-record instruments and explained my reasons for wanting to do so instead of just going ahead without telling the artist
- the wellbeing of the team is crucial to good relations and a great outcome for all.

In future therefore, I will work on improving my mixing and ear-training, and have meetings up front with everybody involved in the production project to discuss our respective roles and responsibilities and how we will work together. I'll also be more mindful of the 'people' side, especially when there is conflict, so that everyone feels valued and respected, even where there is disagreement.

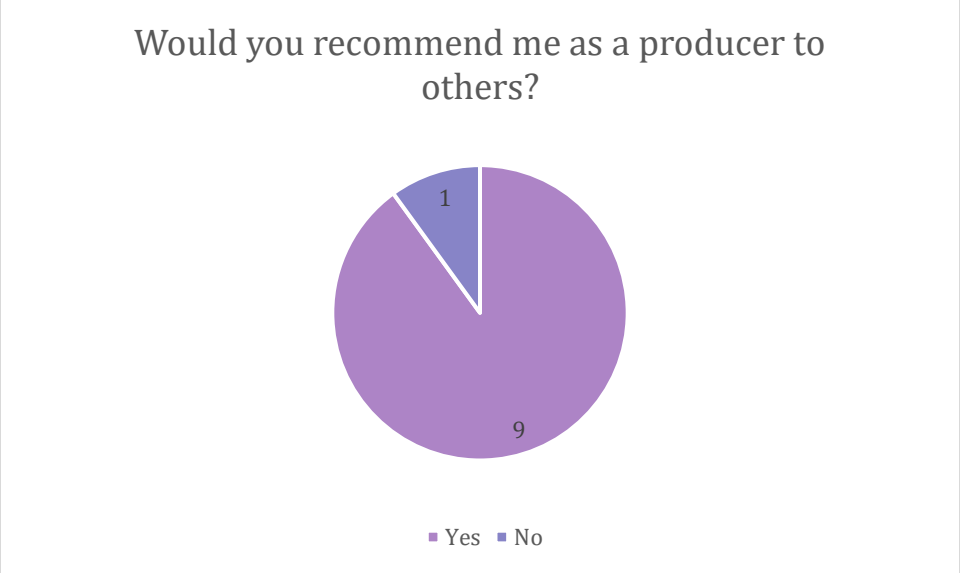
Overall, 90% of the artists and engineers who gave me feedback were either 'very' or 'extremely' satisfied with their experience of working with me as a producer (see ***Figure 5***).

Figure 5: Overall satisfaction with experience of working with me



The one person who was 'moderately' satisfied was the engineer who felt that I wasn't allowing them to do their job and, as such, would not recommend me as a producer to others at this stage (see ***Figure 6***).

Figure 6: Artist and engineer recommendations



I am okay with this because I found their feedback extremely helpful as it will help me lead and manage the production project and those involved better in future.

I am delighted that, from feedback received so far, 90% of those I worked with would recommend me to others as a producer.

I am also delighted to have received the following testimonials which I can use to promote my services:

"Ali is a joy to work with. He is hardworking, creative, funny, and always brings laughter and new ideas to the studio. He is never intimidating and does his best to make everyone feel comfortable and welcome in his sessions. He has a very high level of knowledge in terms of musicality and styles, and he always gives very constructive feedback in a supportive way. 10/10 would produce again." (Artist)

"We enjoy working with you. We appreciate your kindness and good vibes." (Artist)

"Ali has a very clear vision of what to do with a song and where to take it, and given he's very interested in the technical side of the process as well he's a very complete and round producer." (Engineer)

"Ali is an amazing musician, arranger, editor, knows his way around recording and mixing and above all an awesome producer. When working with someone like this you know the music is going to be good! I cannot recommend him enough." (Engineer)

Overall, I have found the survey results to be extremely useful because they have offered insight to, and raised my awareness of, how I work with artists and engineers, what I'm good at, and what I most need to work on to further enhance my skills as a producer.

5.3 Why do artists seek the services of a producer?

The current musical landscape is such that independent artists can learn how to produce their own music; all they probably need is a laptop, headphones, speakers, a DAW, a Midi keyboard and access to 'teach yourself how to produce' videos on YouTube. They may be unable to afford the services of a producer, or it could be they don't see the need. Or maybe they just want to produce their own music. Kanye West for example is an acclaimed producer of his own music.

Nile Rodgers (cited in Massey, 2000, p.172) is quoted as saying "…a great artist makes a song better; a great producer makes an artist better; and a great artist makes a producer better". Yet, when Chic first started out, Rodgers claims that they couldn't find a producer that made the band sound good, let alone better, so they ended up producing the record themselves. He concludes that every artist *could* benefit from having a producer, provided they are in tune with the artist.

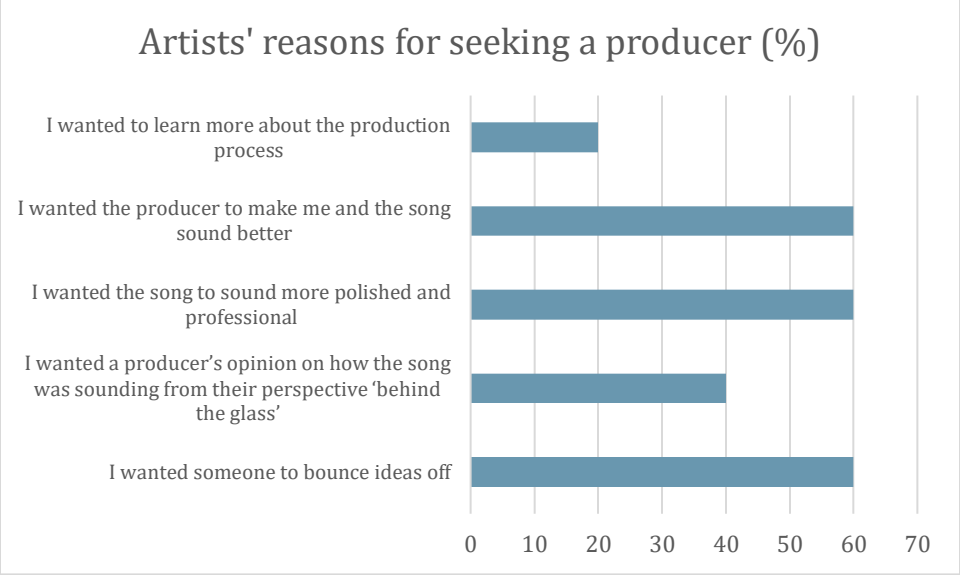
My research suggests a common view (mainly among producers) that most artists need a producer and that even great artists need *someone*. Artists seek the services of a producer because they need someone with an objective view to act as a sounding board; someone they can bounce ideas off. Frank Fillipetti (cited in Massey, 2000, p.2) points out that an artist may have an emotional attachment to certain aspects of their song, a particular chord progression for example, and are reluctant to change it; yet when they take the producer's advice to try something different and listen to it objectively, they can see how the song is working better as a result. Therefore the artist benefits from the producer's impartiality and objective ear. Other reasons that an artist might seek the services of a producer are:

- Having a second mind and ear focused on the song can offer a new perspective and can therefore enhance the creative process.
- The producer is working for the artist and will help them sound better and achieve their artistic vision through combining music technology and creative direction.
- The producer knows music and what works and doesn't, both technically and in the market. It therefore helps to have someone who knows the market, the artist's place in it, and what decisions to make to ensure the song works in the commercial market for the artist's genre.

- The producer will want to make the record the best it can be because they are putting their name to it; they have a vested interest in making the record a success.
- The producer will lead and manage the project from start to finish and deal with the logistics so that the artist can focus on their music.
- The artist can learn techniques from the producer so they can improve the sound of their own demos for example.
- The artist can benefit from the producer's network of contacts, including session musicians, engineers and studio facilities.

The artists who agreed to work with me wanted their songs produced primarily because they wanted: a producer to make them and the song sound better; for the song to sound more polished and professional; and someone to bounce ideas off (see ***Figure 7***).

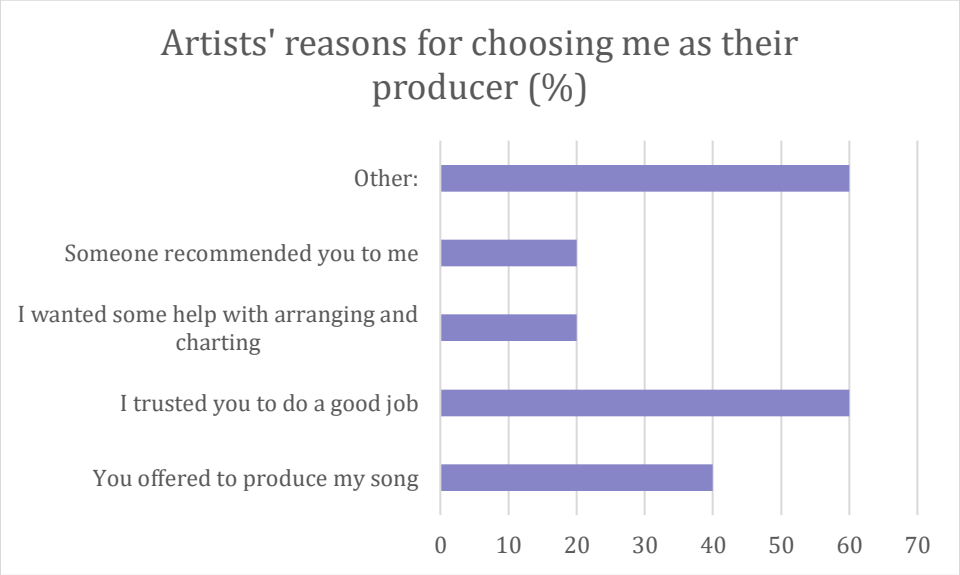
Figure 7: Artists' reasons for seeking a producer



The main reason given by artists for choosing to work with me, as opposed to someone else, was that they trusted me to do a good job (see ***Figure 8***). I am delighted with this result because it's important for

me to feel trusted as a person and for people to feel reassured that I'll work hard and do a good job for them. Key to this is that I wasn't just doing this work for 'a school project' – it means so much more to me than this in terms of helping me achieve my own professional goals and ambitions and I like to think that my genuine commitment to the artists and their projects came across.

Figure 8: Artists' reasons for choosing me as their producer



Other reasons given were:

- *"I think you're hardworking and great at what you do - I knew you'd put 100% into it."*
- *"I valued your understanding of the genre."*
- *"You're the best!"*

I am particularly pleased with the comment about understanding the artist's genre and would like all artists I work with in future to say that about me. If I am to work with artists across a range of genres, it is important that I explore and get to understand genres that I'm not so familiar with. As Jones (2010, p.10) points out, "…each style of music has its own spirit and it deserves the dignity of having its own space".

Although I want to work with artists from different genres, it's important for me as a producer to enjoy the music from those genres; if I didn't enjoy it, I really wouldn't want to produce it!

5.4 How does a great producer take a song or a piece of music and 'turn it into gold'?

To answer this question, I think it is helpful to clarify what I mean by 'gold'. As Don Gehman (cited in Massey, 2009, p.85) points out, "…the purpose of making a record is to make something that is artistically and creatively unique to the marketplace, and then also come up with a hit that you can sell it with". That is the commercial reality of the music business. Therefore my definition of 'gold' in this context is a great record that is both widely acclaimed and successful in terms of sales, where sales success is measured quite literally by going 'gold' or 'platinum'.

Producing records is described as an art, a craft, a process, and a science. Just as a great chef creates great meals and a great artist creates great paintings, it seems that a great producer creates great records by selecting great ingredients and mixing them together with their own unique flair and magic touch to produce a work of art that is more than the sum of its individual parts and which people love and enjoy. According to Owsinski (2016, p.143), "…making great music recordings is the result of many ingredients, but it's made up chiefly of inspiration, musicality, technology, personal interaction and, most importantly, *vibe*".

Turning a song into gold depends on having a great song to work with, one with a structure that is right for the song and which has a great melody and lyrics; a song that tells a story and makes an emotional connection. "If you don't have a great song, even the best musicians can't make it great" (Jones, 2010, p.253). A great producer like Quincy Jones will find a way to portray the song's vision and its melody. To achieve this, Jones (2010, p.254) advises: "You have to really open your soul, your mind, your knowledge, and your passion…it rolls around…I just know it when I hear it."

The performance of the song is an essential ingredient because a great song badly performed is not 'gold'. A great producer will know how to get the artist and the musicians performing at their best. "If you love the people you're working with, you'll take the time and make the effort to understand their capabilities. You'll know their strengths, and you'll know how to put them to use" (Jones, p.255). Jones

believes that he gets the best that the people he works with can give; although he's not sure why he gets this, he does think that it could be because he really believes in what he's doing and that this could help them believe in what they're doing. He creates an environment in which people know that they are free to contribute to the creative flow and that, he believes, is the kind of environment that produces the best music, one in which greatness can happen.

Turning a song into gold then is not just about the song and the way it is performed, it's also about the relationships the producer has with the team. According to Quincy Jones (2010, p.130) the key to getting top results is where there is 'love' between the performer and the producer because "…when that love is established and understood, the producer can be very honest and sincere about everything it takes to record the best possible performance". Jones also observes that if the artist knows you genuinely care about them, "…they can trust their instincts and explore new musical and creative ways to express themselves". Jones also makes sure there is food on hand to make the studio feel more homely and keep everyone going. As I discovered myself during the studio sessions, giving the artist just a few minutes chill time to relax and grab a bite to eat can make a real difference to their performance. Justin Niebank (cited in Massey, 2009, p.11) believes that producing records is all about people and relationships and that "…it's not about the producer…or even the artist or the musicians around him or her – it's about creating a circle of art that is bigger than everyone else".

The artistic decisions that a great producer makes can contribute to the musical alchemy of turning a song into gold. These include decisions about which instruments and equipment to use, mic choices and placements, the number of people in the room, riffs, and use of dynamics. Decisions made 'on the spot' can also contribute to the magic. Jones (2010, p.131), for example, tells the story of working with Aretha Franklin when she did a cover of *Somewhere* from West Side Story. Rather than hiring a session musician to play the piano part, Jones decided to keep Aretha's version because of the "…honesty and vulnerability" of her playing and describes this as "…a magic moment". Whatever the decisions made are, they are made for the purpose of best serving the song and the artist, and with the intent to achieve the sound and vibe they want to create to achieve their artistic vision. As Frank Liddell (cited in

Massey, 2009 p.8) observes, "…my job is to do whatever I can to help the artist make the record they want to create".

Reflecting on what my research and personal experience during this project, I have concluded that, although there are some 'rules' to follow, there is no guarantee that following these rules will result in a 'gold' record, and that what a producer does to turn a song into 'gold' is a complex, 'magic' mix of elements that are unique to the project, those involved, and the interplay of the dynamics between them.

6. Justification

I believe that The Work contributes to the discipline and profession because it has resulted in the provision of new works in the form of original songs by new artists, and has provided an opportunity to expose the produced music of these new artists to general audiences. As well as contributing new art to the world of music, the increased exposure of the music, the artists, and me as a producer, could lead to commercial opportunities for sales of the music, live performances, and more work opportunities for those involved in creating, producing and performing the music. For example, The Work includes a cover of *Georgia on My Mind*, which I arranged as well as produced, and this track has already been released on all streaming platforms and the CD has been released. Most of the artists I worked with plan to release the music commercially.

I selected this project primarily because I wanted to develop my skills as a producer and provide evidence of this in the production of recordings of music composed by different artists. I believe that, throughout the process of creating The Work, I have developed the ability to produce original, creative works by working with new artists and new songs, arranging some of these songs, and bringing my own influences and perspective to production to help each artist achieve their own unique artistic vision.

As such, I now have more knowledge, skills and experience to contribute to the profession and share with others to help them develop their skills. I have benefited because I have developed my skills in the field I want to work in. I also hope that what I have discovered during this early stage of my journey towards production mastery will help other aspiring producers better understand the nature and challenges of the role and the range of skills likely to be required to become a great producer.

The artists have benefited from having their songs enhanced by production which brings with it more commercial opportunities; they have also learned more about the production process which means that they will be better informed in future production projects. The profession benefits and grows from having new artists with new songs and a new producer working in the field. And music lovers benefit from having new artists with new songs to listen to and enjoy.

As I discovered in a previous research project, if a person chooses to listen to a piece of music, they typically do so for its intrinsic rewards, that is, they expect that listening to the music will benefit them in some way (Budd, 1985). Furthermore, although people listen to music for a range of reasons, they do so primarily to manage and regulate their moods (Juslin, 2009; Lonsdale & North, 2011; Sloboda, Lamont & Greasley, 2009). Therefore if listening to the music I produce makes people feel better in some way, I will consider this a worthwhile contribution and a job well done.

7. Professional Plan/Next Steps

My plan beyond the delivery of my CE project is to further evaluate my performance as a producer, reflect on what I have learned, and consider how I might apply what I have learned to my future production projects to continue to improve my professional practice as a producer.

The next steps are to:

1) Review and update my CV and website and put myself out there as a freelance producer for hire.
2) Speak with the artists I worked with about their plans for releasing the recordings and videos to YouTube and other media; I want people to hear the music and ask: *Who produced that?*
3) Gain the express permission of the artists and engineers I have worked with to use their testimonials on my website and to provide links to the recordings and videos that artists have made publicly available so that I can provide examples of the work I have produced.
4) Study the legal aspects of production and hire a lawyer to draw up a suitable production contract for freelance work. Although I am aware that the two copyrights vital to the music business and which protect every song are to do with: a) the copyright in the song; and b) the copyright in the

sound recording, what I don't yet know are the implications of copyright for me as a freelance producer of music and what the implications for contracting would be.

5) Apply for studio jobs to gain more insight to the production business and to provide financial support as I build up my reputation and freelance work (if permitted in the terms of employment).
6) Gain more experience with Pro Tools and mixing to build expertise.
7) Consider and develop the skills associated with all the different 'hats' a producer needs to wear to fulfil their duties.
8) Listen to the great records of the past from a producer's perspective to see what else I can learn.
9) Consider how I might use my experience at Berklee to create opportunities for drumming and performing as well as producing.
10) Continue to learn from every production experience and the artists with whom I work.
11) In the longer-term, consider the possibility of running my own production company and what this would entail, perhaps with a view to providing music for television.

Overall, my plan is to keep producing and keep learning so that I can continue on my journey towards production mastery.

8. Conclusions/Final Reflection

To conclude, completing the project and producing The Work has had a tremendous impact on me in terms of what I have learned, how I have developed and what I have produced. Having recorded and produced an album of my own compositions prior to coming to Berklee, I thought I knew what would be involved and what to expect. And in some ways, yes, I knew that this project would require careful planning and much organisation, which it did. I also expected to work hard and enjoy what I was doing, which I did, very much so.

Where it fell short of my expectations was mainly in respect of the videos. Thinking I would be able to produce videos for each song was just too ambitious and unrealistic as I underestimated the time this would take, the cost, and the resources required to deliver great videos. Other people's time was a major factor here so better planning and scheduling would have been required to make sure the right

people were available at the right time. It was also challenging to find suitable times for rehearsing and recording due to the busy schedules of the artists, musicians and engineers involved. A further challenge was the people side of things, where there are egos to manage and ensuring everyone is productive and rowing in the same direction for the same purpose and outcome. Although I think that, overall, being organised and managing relationships play to my strengths, in this project, there were more people involved and more tasks to complete within certain timescales and it was harder work than I expected.

I was also surprised to learn that a great producer does so much more and requires so many more skills than just managing the project and being technically competent. I certainly did not anticipate that I would spend so much time editing and will factor this in better in future. Also, the relationships the producer builds with all those involved and the vibe they create are absolutely critical to ensuring that everyone performs at their best. I discovered that music production is more than science; it's an art and a craft. Although the basic building block is having a great song to work with, the real magic seems to happen when the people feel valued, 'loved', respected, confident, and motivated to give their best and contribute to the creative process.

The project exceeded my expectations mainly in terms of The Work which comprises twelve songs sung by seven different artists across a range of genres, instead of the planned five songs and five artists. So passionate and enthused was I about the work I was doing, I wanted to do more. And I'm glad I did because, despite all the extra work I created for myself, I have gained more valuable experience, have learned more, and have produced more original songs by more new artists than intended. This I believe is a better outcome than I had originally hoped for; not just for me, but also for the artists themselves, and the engineers who gave up their valuable time to work on the project.

So how have I grown, developed and changed as a result of completing this project? I chose this project because I want to make a living as a producer as well as playing drums at a professional level and therefore wanted to develop and apply my production skills which I believed would also make me a better studio musician because I would know more about what the producer wanted and what they decided to do to achieve this. I called the project *Musical Alchemy: Towards Production Mastery* because I wanted to

find out what I could about what a great producer does to turn music into gold, combined with the realisation that mastering the art and science of production is a journey and, as even the great producers admit that they are always learning, the further realisation that this will always be a journey, without a final destination. They key thing for me is about always improving and enjoying each stage of the journey and my collaborations with different artists along the way.

During this early stage of my journey towards production mastery, I have done what I set out to do in that I have developed and applied my production skills and produced a Work that I am very proud of. I now have more knowledge and a greater awareness of what a great producer does and how and why they do it to turn music into gold, as well as a greater insight to my relative strengths and weaknesses which I can use to further enhance my practice as a producer and apply to my Professional Plan.

I believe that the project has also helped me start to develop and construct my own identity as a producer. For example, I know that, if I don't particularly enjoy a certain genre, I wouldn't want to produce it. More than that, it's about the kind of producer I want to be, one that fully fulfils the requirements of the role as set out in ***Appendix 2***. I can therefore use this as a guide to inform my future development by acknowledging my strengths and identifying what I want to get better at, for what purpose, and what I will do to improve.

Above all, I feel that, during my time at Berklee, I have grown as a person as well as a producer, a musician and a performer because of the diverse range of people I have met and worked with, including fellow students, Berklee staff, and visiting professionals, and what they have taught me about music, production, and even life itself. Reflecting on my overall experience, I would say that this in itself has been a form of alchemy because it's been a combination of great ingredients, all mixed together with a unique flair and magic touch to produce an experience that has been more than the sum of its individual parts and which I, for one, have loved, appreciated, and enjoyed immensely.

I am delighted at the progress I have made and now have a solid foundation of knowledge and skills on which to build, and am relishing the thought and excited at the prospect of embarking on the next stage of my journey towards production mastery. *Thank you Berklee for the opportunity!*

9. Appendices

Appendix 1: SP17 Microphone Guide

Location(s)					Make	Model	Type	Phantom	Patterns	Characteristics / Reccomendations	Freq Response
RES.	AKSS	STAD	BOS	ER							
	4				AKG	C-535 EB	Condenser	Yes	Hyper Cardiod	Handheld Vocal Condenser Microphone. Can also be a good choice for drum overheads or percussion instruments	20 to 20,000 Hz.
	2				AKG	C 451 B	Condenser	Yes	Cardiod	Fairly bright small diaphragm condenser. Great for acoustic guitars, drum overheads, percussion instruments, some strings	20 to 20,000 Hz.
	4	3	1		AKG	C 414-XLS	Condenser	Yes	Omni, Cardiod, Hyper Cardiod, Figure-of-8	Overall great microphone for just about anything. Commonly used for Orchestral Instruments, Drum Overheads, Guitars, Vocals, Piano, etc... Fairly Flat Frequency Response with a Low Freq Roll-Off starting at 100 Hz and a small shelf starting at 10kHz.	20 to 20,000 Hz.
	1	1			AKG	D-112	Dynamic	No	Cardiod	Kick Drum, Bass Amps, Low Brass Instruments, Upright Bass	20 to 17,000 Hz.
	1	1			Audio Technica	AE2500	*Dynamic & Condenser	*No & Yes	Cardiod	Kick Drum, Guitar Amplifers, Low Brass. (*Note that this microphone has both a dynamic microphone and a condenser microphone built within a single microphone body.)	20Hz. to 10kHz. con 20Hz. to 17kHz. dyn
	2	2	2		Audio Technica	4041	Condenser	Yes	Cardiod	Piano, Ambience, Brass, Field Recording, Woodwinds, Guitar, Drums. (Commonely used as a stereo pair)	20 to 20,000 Hz.
	4	2	2		Audio Technica	4080	*Ribbon	*Yes	Figure-of-8	Horns, Wood Winds, Strings, Drum Overheads. (A failry dark microhpone.) (*Note that Ribbon Microphones do NOT require Phantom Power, in fact it can damage them. This microphone is an exception to do active circutry meant to increase output gain.)	20 to 18,000 Hz.
	4	2	2		Audio Technica	4081	*Ribbon	*Yes	Figure-of-8	Horns, Wood Winds, Strings, Drum Overheads. (A failry dark microhpone.) (*Note that Ribbon Microphones do NOT require Phantom Power, in fact it can damage them. This microphone is an exception to do active circutry meant to increase output gain.)	30 to 18,000 Hz.
		2			Audio Technica	Pro 35	Condenser	Yes	Cardiod	*Clip on Microhpone - Guitars, Wind Instrumens, Percusion, Strings, etc... Switchable HPF at 80Hz. Because of clip and Cardiod pattern it is great for live sound applications as well as instrumenst that have a tendancy to move around while playing.	50 to 15,000 Hz.
1					Brauner	VM1	Tube	*No (Tube Microphone)	All (infinitely variable)	Large Diaphram Condenser Tube Microphone. Traditional a Vocal Microphone. Although not good for all vocalists, not a bad choice to start.	18 to 24,000 Hz.
				✓	Byer Dynamic	MCE-530	Condenser	Yes	Cardiod	Small Diaphragm Condenser. Fairly bright overall. Good for Drum Overheads, Piano, and acoustic instruments.	20 to 20,000 Hz.

Location(s)					Make	Model	Type	Phantom	Patterns	Characteristics / Reccomendations	Freq Response
RES.	AKSS	STAD	BOS	ER							
2					Coles	4038	Ribbon	NO!	Figure-of-8	Dark and silky! Great for Piano, Strings, Wind Instruments and Drum Overheads. Extremely fragile, handle with care!	30 to 15,000 Hz.
	1				Crown	PCC160	Condenser Boundry Microphone	Yes	Super Cardiod	Industry Standard Stage Floor Microphone	50 to 18,000 Hz.
2					DPA	4099s	Condenser	Yes	Super Cardiod	Clip on instrument microphone. Can be used for almost anything where a clip is handy. Toms, Horns, Piano, Strings, etc...	20 to 20,000 Hz.
	2				Electro-Voice	RE-20	Dynamic	No	Cardiod	Broadcast Vocal Microphone. Very good for close miking techniques. Good side rejection, very low proximity effect. Great for Vocals, Toms, Amplifiers, Percussion, Kick Drum.	45 to 18,000 Hz.
				✓	M-Audio	Nova	Codenser	Yes	Cardiod	Large Diaphragm Condenser. - OH's, Guitars, Horns, Strings, Vocals	20 to 18,000 Hz.
				✓	M-Audio	Pulsar II	Condenser	Yes	Cardiod	Piano, Ambience, Brass, Field Recording, Woodwinds, Guitar, Drums. (Commonely used as a stereo pair)	20 to 20,000 Hz.
				✓	M-Audio	Sputnik	Tube Microphone	No	Omni, Cardiod, Figure-of-8	Vocals - Extremely flat Frequency Response. Slight bump at 12kHz. And starts to roll off at 15kHz.	20 to 20,000 Hz.
	2				Neumann	KM-184	Condenser	Yes	Cardiod	Fairly bright small diaphragm condenser. Great for acoustic guitars, drum overheads, percussion instruments, some strings	20 to 20,000 Hz.
2					Neumann	M-147	Tube	*No (Tube Microphone)	Cardiod	Large diaphragm Condenser Tube. Great for almost anything. Piano, Voice, String instruments, Wind Instruments, etc... (A fairly bright microphone with a soft roll-off starting at around 200 Hz.	20 to 20,000 Hz.
2					Neumann	M-149	Tube	*No (Tube Microphone)	Omni, Cardiod, Hyper Cardioid, Figure-of-8	Large diaphragm Condenser Tube. Great for almost anything. Piano, Voice, String instruments, Wind Instruments, etc... (A fairly bright microphone with a soft roll-off starting at around 100 Hz. and a HUGE BUMP at 10kHz. of about 2dB)	20 to 20,000 Hz.

Location(s)					Make	Model	Type	Phantom	Patterns	Characteristics / Reccomendations	Freq Response
RES.	AKSS	STAD	B05	ER							
2					Neumann	M-150	Tube	*No (Tube Microphone)	Omni	Large diaphragm Condenser Tube. Great for almost anything. Piano, Voice, String instruments, Wind Instruments, etc... (A fairly bright microphone with a super flat response in the low end, but a 2dB bump at about 3kHz and 8 kHz.)	20 to 20,000 Hz.
2					Neumann	TLM 67	Condenser	Yes	Omni, Cardiod, Figure-of-8	Large Diaphragm Condenser. Typically a vocal microphone but also great for orchestral instruments as room mics or spot mics. Fairly flat frequency response with a soft roll-off at 35Hz and a small bump at 10kHz. (A bit darker than the U87 overall)	20 to 20,000 Hz.
2					Neumann	U87	Condenser	Yes	Omni, Cardiod, Figure-of-8	Large Diaphragm Condenser. Typically a vocal microphone but also great for orchestral instruments as room mics or spot mics. Fairly flat frequency response with a soft roll-off at 35Hz and a small bump at 10kHz. (A bit brighter than the TLM67 overall)	20 to 20,000 Hz.
	2	2			Royer	R-121	Ribbon	No	Figure-of-8	Strings, Electric and Acoustic Guitars, Drum Overheads, Piano, Horns.	30 to 15,000 Hz.
2					Sanken	CO-100K	Condenser	Yes	Omni	Extremely Bright Omni Condenser Microphone. Great for Drum Overheads for extended cymbal detail, good for piano under, good for Bass Amps, yes Bass Amps!	20 to 100,000 Hz.
5					Schoeps	CMC6-MK4S	Condenser	Yes	Cardiod	Extremely Bright Cardiod Condenser Microphone. (Flat up to 20kHz, with a steep roll-off starting at 500Hz. Can be good for many acoustic instruments and drum overheads, but again, VERY bright.	20 to 100,000 Hz.
	1	1			Sennheizer	e902	Dynamic	No	Cardiod	Kick Drum, Bass Amps - Frequency Bump at 60Hz, 5kHz and 10kHz. With a sizable cut at 800Hz. Due to it's Frequency Response it is very suitable for Kick drum. It can bring out the attack and the low end while scooping out some of the mid frequency's you don't necissarily need.	40 to 16,000 Hz.
	2	2			Sennheizer	e906	Dynamic	No	Super Cardiod	Guitar Cabinets, Percussion, Brass. (Extremely Rugged) (Low Frequency Roll-Off at 200Hz., Presence Bump at 4kHz.)	40 to 18,000 Hz.
	2	2			Sennheizer	MD-421 II	Dynamic	No	Cardiod	Guitar Cabinets, Drums, Winds, Brass. (Extremely Rugged) (5 Posistion Bass Roll-Off -*check this!)	30 to 17,000 Hz.
	3				Sennheizer	MD 441 U	Dynamic	No	Hyper Cardiod	Guitar Cabinets, Drums, Winds, Brass. (Extremely Rugged) (2 Posistion Bass Roll-Off -*check this!)	30 to 20,000 Hz.
	1	1			Shure	Beta 52A	Dynamic	No	Super Cardiod	Kick Drum, Toms, Rear Cajon, Bass... (Excentuated Low End)	20 to 10,000 Hz.
	4	2			Shure	Beta 98AMP	Condenser	Yes	Cardiod	Toms, Snares and Percussion	20 to 20,000 Hz.
	2				Shure	Beta 181	Condenser	Yes	Figure-of-8	Drum overheads, snare drum, percussion and acoustic instruments	20 to 20,000 Hz.

Location(s)					Make	Model	Type	Phantom	Patterns	Characteristics / Reccomendations	Freq Response
RES.	AKSS	STAD	B05	ER							
	1	2	1		Shure	KSM32	Condenser	Yes	Cardiod	Overall great microhone for just about anything.	20 to 20,000 Hz.
	1	2	1		Shure	KSM44	Condenser	Yes	Omni, Cardiod, Figure-of-8	Overall great microhone for just about anything.	20 to 20,000 Hz.
	2	2			Shure	KSM141	Condenser	Yes	Omni, Cardiod	Acoustic Guitar, Hand Percussion, OH's, Piano. (Low end roll off starting at 200 Hz.	20 to 20,000 Hz.
	2	1	1		Shure	SM7B	Dynamic	No	Cardiod	Guitar Cabinets, Drums, Percussion, Vocals,.. (Extremely Rugged and Versitile) (Low Frequency Roll-Off at 200Hz, Presence Bump from 3kHz to 6kHz.) (Switchable EQ Curves for HPF and and Presence Bump) (EXTREMELY common for Speech and Vocals)	50 to 20,000 Hz.
	2	2		✓	Shure	SM57	Dynamic	No	Cardiod	Guitar Cabinets, Drums, Percussion, Vocals,.. (Extremely Rugged and Versitile) (Low Frequency Roll-Off at 200Hz, Presence Bump at 6kHz.)	40 to 15,000 Hz.
				✓	Shure	SM58	Dynamic	No	Cardiod	Handheld Vocal Mic, Common for Speech and Live Sound Reinforcment.	50 to 15,000 Hz.
	2				Shure	SM81	Condenser	Yes	Cardiod	Small diaphragm condenser. Super flat frequency response. Great for just about anything except Kick Drum	20 to 20,000 Hz.
	1				Yamaha	Subkick	Dynamic	No	Cardiod	Kick Drum, Upright Bass (Low End)	20 to 5,000 Hz.
	1	1	2		Radial	Pro DI	Passive DI	No	-	A DI box converts the high-impedance of an instrument pick-up to a balanced low impedance signal. This enables the instrument signal to travel distances of 100 meters (300 feet) without adding appreciable noise. The output of a DI box is mic level – thus the balanced signal is treated just like a microphone. (*Even if you do not intend to use the Di signal from a particular instrument, it can still be usefull. I.E. feeding monitors in live sound situations to avoid on stage feedback, OR, Re-Amping the signal later in a studio setting, OR, using to blend with a miked signal to create some isolation between instruments being recorded in the same room at the same time.)	10 to 40,000 Hz.

Location(s)					Make	Model	Type	Phantom	Patterns	Characteristics / Reccomendations	Freq Response
RES.	AKSS	STAD	B05	ER							
	1				Radial	J48	Active DI	Yes	-	A DI box converts the high-impedance of an instrument pick-up to a balanced low impedance signal. This enables the instrument signal to travel distances of 100 meters (300 feet) without adding appreciable noise. The output of a DI box is mic level – thus the balanced signal is treated just like a microphone. (*Even if you do not intend to use the Di signal from a particular instrument, it can still be usefull. I.E. feeding monitors in live sound situations to avoid on stage feedback, OR, Re-Amping the signal later in a studio setting, OR, using to blend with a miked signal to create some isolation between instruments being recorded in the same room at the same time.)	10 to 40,000 Hz.
	1				Radial	JDI Duplex	Passive DI (Stereo)	No	-	A DI box converts the high-impedance of an instrument pick-up to a balanced low impedance signal. This enables the instrument signal to travel distances of 100 meters (300 feet) without adding appreciable noise. The output of a DI box is mic level – thus the balanced signal is treated just like a microphone. (*Even if you do not intend to use the Di signal from a particular instrument, it can still be usefull. I.E. feeding monitors in live sound situations to avoid on stage feedback, OR, Re-Amping the signal later in a studio setting, OR, using to blend with a miked signal to create some isolation between instruments being recorded in the same room at the same time.)	10 to 40,000 Hz.
		1			Radial	X-Amp	Active Re-Amp Box	No	-	Re-Amp Box. Converts Line Level Balanced to Inst. Level Unbalanced. Used for running a balanced line level signal out of a DAW, converting it to unbalanced instrument level, to be run through an amplifier, re-miked and re-recorded.	

Source: Berklee College of Music (2018) *SP17 Microphone Guide* (online). Available at: http://ol.berklee.edu/course/view.php?id=69583 (accessed 19th March, 2018).

Appendix 2: Producer Role Profile

Job Title: Music Producer

Job Purpose: To serve the artists and other clients who hire them to help them realise their musical vision and personality; and lead and manage the production project by setting its direction and effectively planning and organising resources to ensure its completion by the scheduled date.

Duties & Responsibilities:

1) Meet with the artists to get to know them, establish their musical vision, select songs to produce, and agree the terms and expected outputs of the production project.
2) Lead and manage the production project.
3) Develop a project plan, including key dates and milestones.
4) Agree and manage the production budget.
5) Book studios and select and hire instruments and equipment.
6) Select and hire musicians and engineers as appropriate for each project.
7) Meet with the engineer to discuss and agree respective roles and responsibilities.
8) Write chord charts.
9) Contribute to and agree the song arrangements.
10) Conduct rehearsals.
11) Make a preproduction demo.
12) Lead and manage the recording sessions.
13) Create a comfortable environment and a good vibe in the studio.
14) Get the best from artists, musicians and the production team.
15) Arrange for food to be brought in.
16) Record the basic tracks.
17) Decide what overdubs are required, and prioritise these for recording.

18) Comp, edit, mix and master the tracks.

19) Determine the sequence of songs on an album.

20) Turn songs into gold and decide when the job is done.

Knowledge, Skills & Qualities

The job-holder needs to know:

- what the artist is aiming to achieve
- a good song when they hear one
- about song structure, arrangement and dynamics
- what equipment and instruments to use and in what way to achieve the desired sound and outcome
- when it's the right time to push the artist or stop and give them a break to take the pressure off
- when the music sounds right
- when the job is done
- about marketing, covers and liner notes.

The job-holder needs to be able to:

- use a range of production tools and techniques for arranging, recording, mixing and mastering
- see the big picture and visualise how all songs on an album fit together to create a cohesive and artistic whole
- create an open, comfortable and harmonious environment that is conducive to collaboration and creativity and where the artists feel inspired to perform at their best
- treat everyone with respect
- develop project milestones and bring projects in on time and within budget
- plan activities, source and allocate resources, and manage budgets

- build and effectively manage relationships with all those involved in the project.
- negotiate deals and contracts with artists, engineers, musicians and studio managers
- write chord charts and lead sheets for musicians if necessary
- troubleshoot when a song is not sounding as good as it could
- go with their gut instinct
- learn from their mistakes so that they can become a better producer

The job-holder needs to be:

- passionate about music and have a good music education and musical expertise
- someone the artist wants to work with and feels they can trust with their creative project
- respectful of and committed to the artist and their vision
- focused on the music
- honest and sincere, and have integrity
- versatile, adaptable and resourceful, reacting to and making the most of creative opportunities to improve the music as they arise
- open to ideas and willing to try them out
- well-organised and on time
- objective and decisive
- diplomatic, patient and good at managing conflict
- a confident and skilled communicator
- always be learning new skills that are transferable across different productions and genres.

Appendix 3: Other feedback from artist/engineer survey

Question	Artists	Engineers
Was there anything about my production process that stood out to you or that was unique?	*"You weren't always 100% sure what you were doing (and you would admit that) but you never got stressed and you always found a creative solution for all issues."* *"Very direct and organized."* *"Versatility during the process."* *"I think the term 'producer' is nebulous so, to be honest, I wasn't sure how involved you would be as producer, and I wasn't sure exactly what you would be doing. It was really helpful to have you at the rehearsals and, in general, it was really helpful to have you present and supporting me throughout the whole process."* *"We think that it was very positive because you were patient, you adapted everything to our music and you were very attentive with the musicians' wellness."*	*"You had a very clear idea of the direction you wanted for the song."* *"I really liked your desire to do the editing of the recordings, the interest in working on the input list and the fact you had music sheets for the engineer also!"* *"You had good suggestions for arrangements and production elements, but the engineering side should be left to those who specialize in that field."* *"Your listening skills pertaining to listening to the song as a whole; enthusiasm to know the engineering side of production!"*

Question	Artists
If there is one thing I could have done to make the whole production experience better for you, what would that be?	*"Disclose when you had other people re-record instruments."* *"Can't think of anything at the moment! I think you definitely had this in my case, but I will just say that I think it's incredibly important for a producer to show that they are driven and personally invested in the outcome of the project, and that they are genuinely excited to be working on it. It's also important for producers to know how to properly criticize - give enough positive and negative feedback to be helpful."* *"It was a little difficult sometimes to communicate for language reasons."*

Question	Artists	Engineers
What other feedback do you have for me?	*"We are looking forward to the final product, but we are satisfied with your work. We think that we had some differences in our criteria, for example at the beginning, to record together in the same room, but you finally adapted your ideas with ours, and we were very comfortable."*	*"You're in your way of becoming a fantastic producer, so keep it up!"* *"Just make sure you have all the instrument reservations confirmed before."* *"If you'd like to produce and engineer, have an engineering assistant there, but if you are only producing, let the engineer do their job. Don't disregard their mic suggestions, because they know what they're doing. Of course you can make suggestions, but let them have the final say. That's why they're there! They want you to get the best sound possible. That being said, you were very professional and organized, and I believe you can work on these issues and become a much better producer."*

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