

# An Impact Assessment of Instrumental Music Tuition on the non-musical Progression of Mayor's Music Fund Scholars

by  
Amanda Valentine MSc, BA (Hons), PGCE

## Introduction

This document provides an impact assessment of the effect of learning a musical instrument on the achievement of children in non-musical areas. It uses information provided by scholars, parents, teachers and mentors of the Mayor's Music Fund (MMF), alongside secondary research. The information has been compiled from 153 reports compiled on scholars from the academic year 2012-2013.

Established in May 2011, even the first scholars have only completed just over half of the four-year programme. As such, this paper cannot conclusively say that there will be a direct benefit on their academic achievement from learning a musical instrument. However, it will look into any immediate and longer-term benefits.

The report divides the findings between different types of intelligence, to give a greater understanding of how, if at all, learning a musical instrument can be of benefit to children. For each type of intelligence, it should be noted that any positive effects are through skill transference (Hallam 2010).

## Literacy

**'Over the last two years, Soyeon's confidence in literacy has improved considerably and she has made huge improvements in her mathematical problem solving skills and independent thinking and learning. Her resilience and perseverance in learning have increased and Soyeon is a high achiever in both literacy and maths.'** (Soyeon, age 11, keyboard, Kingston).

- Reading is one area of literacy which is generally believed to be improved through music tuition, particularly lessons involving the interpretation of musical notation. An improvement in this area is noted by some of the parents and teachers in their reports of the scholars.

**'Despite struggling with some aspects of literacy, Josh's ability to understand notation and articulate his knowledge is notable.'** (Joshua, age 10, cello, Islington)

- A study found "a link between musical ability and reading ability...although this improvement is fairly small...it may be that a musical intervention in combination with other types of intervention may be even more effective than focusing on one single area (Douglas and Willatts 1994, pp.106-107). This was corroborated by a meta-analysis (Butzlaff 2000).

- Other teachers have a strong belief that some scholars' ability in literacy has been improved because they are more willing to take risks. For example:

**'Alisa has made excellent progress in reading and writing, and good progress in maths. This is partly due to her increasing willingness to 'have a go'. Undoubtedly success as a musician has improved her sense of self-worth, which in turn has helped her to respond positively to challenges in other areas of the curriculum.'** (Alisa, age 10, violin, Lambeth)

- Although 'have a go' risk-taking could be described as a "soft skill", it is clear that this improvement in attitude to work is directly affecting the scholars' achievement in this case. Similarly, there is a lot of mention of 'dedication' to learning in the reports:

**'Whilst Toby has been developing a more dedicated approach to his practice over this year, so too has he been becoming more focused on his work. He is the only child in Year 5, who has been moved up to the top set literacy group during the course of the year.'** (Toby, age 10, cello, Tower Hamlets)

- A study into a link between vocabulary and verbal sequencing, and music instruction found that children who had three years of piano lessons outperformed those who received no music training. (Piro and Ortiz 2009). Again, this is corroborated by a number of similar studies (Bilharz et al. 2000; Costa-Giomi 1999; Graziano et al. 1999) although noticeable improvements in vocabulary was not mentioned in any of the MMF reports.
- 31 of the reports mention some improvement in literacy (sometimes referring to improvements in English, Reading or Writing). 12 of these specifically, without prompting, relate this improvement to the child taking part in the scholarship scheme.

## Numeracy

**'Samiyah is a bright girl who achieves well in all subjects, especially maths. She concentrates well on independent tasks. Her academic success and her musical ability are inter-supportive.'** (Samiyah, age 10, cello, Enfield).

- It is generally considered that ability in music and maths are linked; that reading notation requires mathematical processes such as sub-dividing beats and realising the rhythms in sound.

**'She has always been a good student so I have not necessarily noticed an improvement in her approach to school work that I could attribute directly to her music, but she is developing well and went up three stages in her maths this year.'** (Sian, age 10, trumpet, Lambeth)

- Experimental studies show that music lessons lead to improvements in maths and spatial abilities. However, the control groups in these studies received no lessons at all, so it is difficult to prove causation (Schellenberg 2004).

**‘Sovenna understands the benefits of continual practice to improve her performance whether she is playing the cello or doing Maths and English.’** (Sovenna, age 10, cello, Redbridge)

- An American study examining 8<sup>th</sup> grade students (14-15 year olds) found that students with two or more years of private musical tuition showed higher achievement in mathematics (Cheek and Smith 1999).

**‘Through this opportunity Phoebe has had more opportunity to develop her literacy and numeracy skills through the music.’** (Phoebe, age 10, guitar, Lambeth)

- Most of the research appears to show that active engagement in learning an instrument does lead to higher achievement in maths, but it still remains unclear whether this is a causal effect.
- A total of 34 of the reports mentioned an improvement in the scholar’s Numeracy (or Maths ability). Of these, 11 comments made clear that they believed that the improvement in ability was due, at least in part, to their music tuition and practice.

### Language and communication skills

**‘As a mum I can definitely say that Joel’s listening and communication skills have improved immensely and it has given Joel a strong sense of the determination to succeed in everything that he does.’** (Joel, age 11, trumpet, Croydon)

- There is a growing body of research which suggests a link between musical training and improved language processing (e.g. Magne et al 2006; Patel and Iverson 2007). An area of particular interest is the link between pitch patterns and speech.
- One particular study found that learning to play a musical instrument leads to changes in the brainstem as well as the cortex. This was shown through faster responses to the onset of a syllable in musicians than in non-musicians. The fastest responses came from those musicians who had been learning the longest (Musacchia, Sams, Skoe and Kraus 2007).
- Research by Magne et al (2006) showed that in the brain’s development of prosodic (the rhythm, stress and intonation of speech) and melodic processing, pitch processing seemed to occur earlier in music than in language, therefore providing evidence that music tuition will aid linguistic development.
- In music, it is also important that the performer can communicate non-verbally with his/her audience. This ability was noted in some reports:

**‘His solo performances have been outstanding; technically assured and musical, with obvious enjoyment and clear communication with his audience.’** (James, age 11, violin, Hillingdon)

**‘He is very cautious and vigilant when listening to the sound he creates, generating good communication about what and how he wishes to produce the desired colours/ tones.’** (Spike, age 9, drum kit/percussion, Ealing)

- 15 of the reports mention an improvement in communication and/or language skills. About a third of these comments directly relate the improvement with learning a musical instrument. This is particularly relevant for those children for whom English is not their first language. At least five mentors reported difficulties with communicating with scholar's families because they did not speak English sufficiently well.

**'Most of my successful achievements in life came from music and it wasn't easy, as English wasn't my first language.'** (Aissatu, age 11, cello, Tower Hamlets)

## Creativity

**'Eren is working at the expected levels for a child of his age. Part of his academic success is due to the self-confidence he has developed due to the high standard of his music ability. It has also helped him develop perseverance, team work and creativity.'** (Eren, age 11, violin, Greenwich)

- The word "creativity" most often featured in MMF reports in the section dedicated to improvisation and composition. Improvisation has been found to be the musical activity which best supported the development of creative thinking. It is a very worthwhile break from reading notation and as such should be encouraged as a regular pursuit of all music students (Koutsoupidou and Hargreaves 2009).

**'Charlie is confident to experiment and improvise and often independently develops techniques and repertoire that she has been taught. She is able to improvise well and to generate creative musical ideas.'** (Charlie, age 11, cello, Lewisham)

- 21 reports perceive an improvement in scholars' creativity as a result of learning a musical instrument. Often, this is expressed in terms of improved composition or improvisation. However, there are some good examples of how this creativity has been transferred to other skills such as art, creative writing, drama and presenting.

**'Her artistic and imaginative skills seem to be improving quite a lot including academic performance.'** (Esther, age 11, trumpet, Royal Greenwich)

**'I have enjoyed discovering the creative side of Joel's personality.... I look forward to discovering and observing more of his creative nature. He is artistic and has done a fantastic drawing of Mr Boris Johnson, inspired from being really pleased to have met him.'** (Joel, age 11, trumpet, Croydon)

**'Being a 'jazzier' at heart, Louis enjoys improvising on all his instruments and I'm sure this ability to 'free flow' feeds into a talent for creative writing, which has recently been highlighted by his class teacher. Louis is an avid improviser and has a burning passion for musical genres that allow for scope for creative expression through improvisation such as jazz.'**

**This is one of the primary areas he wishes to develop in the years ahead.'** (Louis, age 9, tenor horn (transferring to French horn), Hackney)

**'She recently helped present an assembly where she had to talk about sport and keeping healthy to her peers. She acknowledged that her experience of musical performance helped her with her presentation skills in this context.'** (Lucy, age 9, flute, Harrow)

### Discipline

- The word 'discipline' was mentioned in 19 of the reports and as such commands a section of its own in this report. It is quite clear that parents and teachers alike value the self-motivation that learning an instrument fosters.
- There are alarmingly few studies into the link between music tuition and improved discipline, which may be an area requiring further research.

**'He is also beginning to put more effort into other areas of his school work such as Maths and English and this, I feel, has been as a result of discipline instilled through the regular music practice at school and SMC. He still requires some push from us, parents, but Abdud has a strong practical side to him and is beginning to unwind his academic front as well now. As he becomes more aware and confident in his capabilities, I think he will enjoy more of what he does and we would like to thank everyone involved for the support given to our son and for giving him this great opportunity.'** (Abdud, age 10, cello, Tower Hamlets)

**'The discipline required to learn an instrument has a beneficial effect on all other subjects. It has been noticed that Hannah's concentration has improved, as has her determination to succeed and not give up when a task is difficult.'** (Hannah, age 10, clarinet, Enfield)

### Social, personal and emotional development

**'My scholarship gave me confidence to do a range of things that I've always been scared to do such as audition for the school play and end up with a lead part, socialise with older children and make friends with them.'** (Aissatu, age 11, cello, Tower Hamlets)

- The MMF report form asks the scholar's headteacher/school teacher to comment on any changes in social development. Although this is not directly related to academic achievement, improved social and emotional well-being is likely to lead to an improved attitude to work, higher self-esteem and increased motivation particularly for children of a low socio-economic status (Costa-Giomi 1999).

**'Having taught Josh music since Year 3, the change in his personality and confidence has been massive. He had very low self esteem and behavioural problems in class. Since discovering the cello and receiving the scholarship there has been a miraculous transformation.'** (Joshua, age 10, cello, Islington)

- The aspects of arts engagement which were found to be most influential by Harland et al. (2000) were those related to personal and social development. For music, the most noteworthy were a

heightened awareness of others, improved social skills and well-being.

- Almost every single report claims that the child has developed a better social awareness since beginning the scholarship programme and learning a musical instrument. Of particular note are the number of reports where parents, teachers and the children themselves have felt that their confidence has improved significantly.

**‘Abdud is a naturally social boy. However I think it has been really beneficial to him to play with children from different schools and backgrounds. He is a more ‘worldly’ and well-rounded person for these experiences.’** (Abdud, age 10, cello, Tower Hamlets)

**‘It makes me feel calm. It makes me feel happy. It can help me control my feelings when I feel angry.’** (Jerrell, age 9, djembe, Hackney)

- In the case of a child with Asperger’s Syndrome, the mother reports that in the past he has struggled with social situations and making friends, but that becoming a scholar has helped him overcome these issues.

### Physical development, health and well-being

- Although no reports state that learning a musical instrument has improved a child’s health, ten reports have stated that the scholar has become more involved in sporting activities since starting the scholarship. The children mentioned have successfully managed to balance the requirements of the scholarship with their schoolwork as well as a healthy and active lifestyle.

**‘Christian is a very athletic child, taking part in football clubs and cricket matches in the local area. He is an excellent team player and actively motivates those he works with, bringing out the best in those he is with. The music scholarship is clearly impacting in a positive way on Christian’s self-confidence, motivation and his ability to focus.’** (Christian Brown, age 11, trumpet, Haringey)

**‘She also dances classical ballet, tap and modern and has commented that she thinks about what she has learned in her music lessons while she dances. This year the music she is using in both ballet and clarinet exam is the same piece, ‘Minuet’.’** (Casey, age 11, clarinet, Croydon)

- Hallam (2010) states the following: ‘Playing the piano exercises the heart as much as a brisk walk and there are lower mortality rates in those who attend cultural events, read books or periodicals, make music, or sing in a choir. Music making has also been shown to contribute to perceived good health, quality of life and mental well-being.’

### General attainment

**‘The discipline required to learn an instrument has a beneficial effect on all other subjects. It has been noticed that Hannah’s concentration has improved, as has her determination to succeed and not give up when a task is difficult. Her listening skills, an essential part of music**

**making, have also developed extremely well, and this has been very useful in other subjects.'**

(Hannah, age 10, clarinet, Enfield)

- The body of research into the link between music tuition and general educational attainment appears to support a positive effect, but is also fraught with extraneous issues. Not least of these is the argument that participation in musical activities may be linked to a higher socio-economic status. Of course, this is not true of the MMF scholars; however the reports do suggest that the vast majority come from very supportive home environments.

**'Mechal has really improved academically this year and become more focused in her studies.**

**This impact has been from the discipline of studying a musical instrument.'** (Mechal, age 11, cello, Royal Greenwich).

- Studies show that much of the link between music and general attainment depends on the development of numeracy, literacy and language which have already been covered. However, there are some clear comments from parents and teachers who have noticed improvements in scholars' performance beyond these three areas.

**'Since moving on to secondary school, he has thrived on being challenged academically and he's doing brilliantly at school, having had an excellent report. This is due in no small part to the confidence that he has gained since becoming an MMF scholar.'**

(Charlie, age 11, cello, Sutton)

**'Samantha has had a very good year in school and has made significant progress particularly in reading. She does lack confidence in herself and I do feel that her ability in music, and this programme in particular, is having a positive impact on her overall achievement. I am so pleased that she is doing so well and the positive outcomes that it is having on her.'**

(Samantha, clarinet, Hillingdon)

**'Her dedication and hard work is reflected in other modules outside her music, where she has done really well in various modules such as English, Maths, French and RE.'**

(Aissatu, age 11, cello, Tower Hamlets)

## **Conclusion**

- The body of research widely supports the belief that learning a musical instrument leads to transference of skills to other areas of academia, such as literacy, numeracy and language skills. However, evidence suggests that the transference may be stronger to the softer skills such as discipline and motivation, creativity and emotional well-being.
- The MMF scholars' reports are overwhelmingly positive and very supportive of the greater benefits of learning a musical instrument. However, the small sample size of just 153 reports limits the validity of the findings.
- The reasonably low drop-out rate (just 28 scholars since the start of the scheme) is also worth

noting. A further four students have left the scholarship to move onto schools where their music tuition will be funded in a different way, including one who has begun her studies at the Purcell School. This indicates the enjoyment of the students and the belief of the parents of the positive effect the scholarships are having.

- This report is a mid-point impact assessment, having been completed only just over two years into the project. A further 70 scholars have recently begun their first year, with between 70-100 more scholarships to be awarded in 2014. A follow-up assessment in 2015 when there will be a total of 400-500 end of year reports to analyse, and the initial cohort will have completed their scholarships, will be able to indicate the success of the programme much more accurately.
- The impact of the scheme for the scholars' families is also wide-ranging, as can be seen by the comments below:

**'I really enjoy it and it stops me from watching TV. So instead of watching TV I can learn more about the cello'** (Daniel, age 9, cello, Waltham Forest)

**'The scholarship is very helpful as well because it made a difference to how she does other things such as school work and activities like her drama classes. I have noticed that she is more committed to her school work now knowing that if she does she can achieve something big.'** (Mechal, age 11, cello, Greenwich)

**'As a parent this scholarship has been a godsend because it has meant that we can now afford for his older sister to also attend and enjoy all the benefits that the music school offers on Saturdays – a more pleasing arrangement than at her secondary school.'** (Fraser, age 10, guitar, Havering)

**'His pride in his work and practice is evident in his smile.'** (Ky-mani, age 10, guitar, Lewisham)

### [Amanda Valentine](#)

Amanda is a Music teacher at a secondary school in central London. She began learning the clarinet at the age of eight, starting the piano soon after. Being awarded a County Scholarship at High Wycombe Music Centre enabled her to broaden her musical understanding through playing and singing in a wide variety of ensembles. A growing interest in jazz music led Amanda to take up the saxophone aged 14. Her interest in singing developed during her A Levels, where she directed a gospel choir and started vocal lessons. With three grade eights and a grade six before she left school, Amanda continued her study of Music with an undergraduate degree at the University of Southampton. Graduating with a 2:1 in 2010 she began her teacher training, moving to Oxford Brookes University to study for a PGCE in Secondary Music. The final project of the course ignited Amanda's interest in education policy, and she decided to study part-time for a Masters degree in Public Services Policy and Management whilst continuing her teaching career in High Wycombe. She has recently been awarded an MSc with Merit from King's College, London.

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