

Cassie: A gifted musician. Socio-cultural and educational perspectives related to the development of musical understanding in gifted adolescents

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Abstract

This qualitative study focuses on the intrinsic value of musical understanding and how it is influenced by socio-cultural and educational factors shaping the development of a gifted adolescent. Using Gross's (1993) model of case studies of exceptionally gifted children, the student was identified for her innate abilities, and studied using the Maker (1982) model within a context of cultural and social values, support from significant others, and motivation. The complex interplay of these factors have been discussed in a case study by Ho and Chong (2008) where the need for further studies on the development of musical gifts were identified, particularly within a specific cultural context. In this study, the subject demonstrated a deep musical understanding using the skills of critical thinking and problem solving in performance, and the ability to synthesise musical ideas in analysis tasks. Her socio-cultural environment influenced the development of skills such as written and oral communication, creativity, self-direction, leadership, adaptability, responsibility and global awareness. These skills have been identified in a survey of researchers, curriculum specialists, administrators and teachers in the Harvard Education Letter (Waiser, 2008) as being necessary for the 21st Century. This case study suggests ways in which these skills may be infused within classroom music practices.

Key words: gifted musician, curriculum, differentiation

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Statement of the problem and research questions

In this case study, the aim was to discuss specific problems inherent in the notion of musical understanding as an outcome of music education. The case study focused on the integration and interplay of factors of identity, social milieu, educational environment and motivation as having profound influence on the development of musical understanding in a gifted adolescent: Cassie. The purpose of the study was illustrative, and indicative of problems

existing in the implementation of the music curriculum in a specific socio-cultural context and with an exceptionally gifted student. It was not definitive, because findings from a single case study are not generalisable. This paper will conclude with a discussion of practical and insightful recommendations, some of which are also highlighted in the literature review.

The main question to be addressed was: How may the music curriculum and its implemented by teachers cater for a student's exceptional musical ability? A subsidiary question to be addressed was: How can the student's program

be differentiated while maintaining positive social, cultural and peer relationships?

Although Cassie had achieved remarkable success in her musical activities, she expressed the lack of “encouragement, opportunity and challenging goals” in her senior years of music education at school, which limited the possibilities for individual and small group music performance opportunities within the parameters of the Queensland Studies Authority Trial-pilot senior syllabus Music Extension (2006). This problem, also expressed by some of her peers, prompted this study. Cassie was selected not only for her experiences of limiting choices in existing structures and systems of education and the inadequate provisions for challenge and opportunity in music performance, but also for her academic success in other domains of learning (physics, chemistry, language and the arts). In her community she won performance awards in eisteddfods, opportunities to attend workshops and master classes, and demonstrated ability to promote a musical culture among her peers, through outstanding leadership in music at church, school and in performance ensembles. In addition, she affirmed her talent when tested for musical giftedness in a series of assessments for entry to a private school considered to offer a leading program of music education for gifted and talented musicians. While she was offered a scholarship, she chose to remain in her familiar school setting for geographic convenience.

Giftedness and underachievement

Clark (2002) defines “giftedness” as a “biologically rooted concept that serves for a label for a high level of intelligence and indicates an advanced and accelerated development of functions within the brain”. She also sees “talent development” as “appropriate, deliberate and planned stimulation to develop the individual intelligence in a variety of forms or expressions”

(Clark, 2002, p. 26). Intelligence, therefore, can be enhanced or inhibited by the interaction between an individual's genetic patterns and those opportunities provided by the learning environment. With regard to the exceptionally gifted, Gross (1993) describes such students as being “unique in having an extremely specialised gift that is expressed only under very specific, culturally evolved, environmental conditions”. These students are “the most specialised specialist we know about” (Gross, 1993, p. 10). In her longitudinal study of children from seven to nine years of age, she confirmed observations by Hollingworth (1942) that education for these students is inappropriate. “In the ordinary ... school, children of I.Q. 140 waste half their time; those above I.Q. 170 waste all of their time” (Hollingworth, 1942, p. 299). This data is important despite its historic dating, for rigorous longitudinal studies of exceptionally gifted students of this calibre are hard to identify and study over an extended period of time. Gross (1993) agreed with Reis and McCoach (2000) that educators need to identify acceleration and differentiation as an educational issue that resists assimilation. This should be done because potentially gifted students from various socio-cultural backgrounds having language and other differences that account for inadequacies in standardized testing to accurately determine the potential and ability of these students. Reis and McCoach (2000) recommend a flexible student-centred approach to education combining counseling (Butler-Por, 1993) with differentiation for gifted underachievers. However, most interventions designed to reverse underachievement in students have been inconclusive and inconsistent (Emerick, 1992).

In a case study which analysed talent development in a musically gifted adolescent, Ho and Chong (2008) used Gagné's (2003) *Differentiated Model of Giftedness and Talent*, a model separating definitions of talent and inherent giftedness. They found that the

richness of cultural origins, background and home-school relationships were important for development of “natural ability” or inherent gifts in music. As Gagné asserted, talent “is a complex choreography” involving the interplay of many factors (Ho & Chong, 2008). They concluded that Gagné’s postulations on the existence of “natural ability” or “giftedness” were essential to the development of this student’s ability to “understand complex musical structures and accomplish tasks well beyond her age” (Ho & Chong, 2008, p. 14). However, they found her “empowerment and motivation for success” and her support from significant others was equally important (Ho & Chong, 2008, p. 14). Another key finding was “the evidence of cultural values and attitudes as having a profound impact on the way parents perceive and practice talent development”. Gagné defined giftedness as “underlying competence that is distinctly above average in one or more domains of ability”, and talent as “performance that demonstrates ability distinctly above average in one or more fields of human performance” (Gagné, 1985, p. 108). He defined these in terms of influential personal and environmental characteristics. All children may possess talent, and respond to development of such talent. On the other hand not all are gifted, remarkable in the possession of an underlying competence similar to that of the “specialist”, responsive to empowering, challenging opportunities for acceleration in culturally appropriate environments.

VanTassel-Baska’s (1998) comprehensive summary described an expanding lens viewpoint on giftedness, from the narrow IQ base of the 1920s to current multimodal perceptions which require recognition and appreciation of the full range of worthwhile gifts and talents in learners. Sternberg (1985) had contributed substantially to expanding global concepts of giftedness with his triarchic theory of intelligence. By the turn of the century, he was encouraging educators to seek, locate and cater for neglected talents

and abilities. He presented a strong case for identifying gifted students more broadly, by finding those who are practically and creatively gifted as well as analytically gifted (Sternberg, 1998). Queensland has tended towards the Renzulli (1994) ‘Total School Improvement’ model as a basis for whole-school development.

Braggett (1997) indicated that the development of sound educational reasons for ability grouping, differentiated curricula and a total school approach involving all teachers would ensure exceptionally gifted students would reach very high levels of performance. He reasoned that, as giftedness isn’t fixed but is, rather, influenced by background and surroundings, the curriculum provided for these gifted students should be shaped by smaller units of work, challenging tasks, everyday, relevant examples and revision to reinforce success. A curriculum that is differentiated must cater for individual needs, rather than be conceived as an add-on, if it is to motivate these gifted students. The selection of appropriate tasks for motivating gifted students within curriculum areas is crucial (Torrance, 1965; Silverman, 1993; Van Tassel-Baska, 1992).

Exceptionally gifted musicians develop a passion for engaging in certain musical styles and genres related to their individual socio-cultural environment, expressing these further in performance, composition and improvisation. Focusing on these interests avoids their erosion and consequent underachievement when students have to conform to a curriculum of little relevance to their lives (Porter, 2005). Cohen (1998) identified six themes that, when included in music programs, were essential for these students’ success. Themes identified were: control and mastery; nature and nurture; meaning and origin of things and transforming them into useful functioning products; people and interrelations; artistic expression; and symbols and systems (words, music, numbers, body language).

With regard to broader areas of interest (social, aesthetic, practical and leadership skills), recent research has explored the effects of friendship and age on collaborative learning among music students. MacDonald, Miell and Mitchell (2002) found that when working together with a friend, students produced compositions rated as having better quality than those produced by students working in isolation. A notable improvement in verbal and musical communication also occurred. Older students benefited more in negotiating instrumentation and musical organization in unstructured composition tasks. Friends worked better, as there was mutual understanding of processes and ideas. Pooling of ideas and selection of the most appropriate material through trial-and-error increased quality work and synthesise ideas to create something of greater merit. Conflicts in terms of overall vision led to negotiation and justification of ideas amongst students, refining thematic materials and reshaping ideas in the piece (Kaschub, 1997; Mehan, 1984; Wiggins, 2000). Rigoff (1990) found that in learning situations, communication and shared problem-solving inherently bridge the gap between old and new knowledge.

Music learning is a social activity and never context-free. Brandstrom (2000) investigated the music education of northern Sweden to explore the concept of its value as an investment in cultural capital. The way students responded to music education was found to be dependent on both socio-cultural and musical background. Those lacking in cultural or informational background tended to drop out of the program when they reached their teenage years. In a paper summarizing the judgements of the quality of provision for the arts in schools in England in 1998, Mills (2001) found that those schools which were successful provided opportunities for students to extend activities and achieve beyond school. Researchers have questioned the appropriateness of our vision for gifted students and advise on a differentiated curriculum

integrating community and school activities (Bailey, 2002; Crocker, 2002; Schultz, 2002).

Higgins (2008) suggests "the attributes of generosity, empathy and care are acknowledged in gift theory" and are familiar qualities of *gifted* musicians who are often encouraged to give of themselves in order to further develop these attributes. There is a chain of connective forces coming into play whenever music is practiced in varying socio-cultural settings. Vygotsky (1978) believed all learning to be socially mediated, as the student's own experience is contextualized in a particular setting. He recognized links between social collaboration, transformative human relationships and the development of metacognition (higher thinking, use of self-regulation and problem-solving strategies). Children's concept of self and their world is transformed by framing knowledge, enacting agency intuitively, developing strategies and internalizing knowledge (Vygotsky, 1978). Talent may be identified and developed in all children, when supported by more knowledgeable peers and adults who engage in thoughtful discussions with students on the music they are making. However, giftedness is a multifaceted construct involving cognitive, metacognitive and motivational components (Alexander, Carr, & Schwanenflugel, 1995). It refers to exceptional potential in multiple domains, while talent is specific to one domain and involves systematic development of skills and above-average performance in that domain (Gagné, 1985). Gifted music students are often motivated to fulfil roles of supporting less knowledgeable peers in activities which promote talent development. In return, educators are called to commit to those who possess exceptional giftedness in order to enhance ability, not to inhibit these individuals from reaching their full potential.

Relevant, meaningful curricula catering for problem-based learning has been recommended for students of exceptional musical ability whose desire to participate is buried because

of peer pressure and an outdated, irrelevant curriculum (Freebody, Watters & Lummins, 2003). The Freebody report, presented at the Gifted and Talented Students State Conference, recommended that Education Queensland move to “more explicitly integrate the education of gifted students into its current policy initiatives” (Freebody et al., 2003, p. 69) and that “patchy visibility (of these gifted education policy initiatives) continues to set unacceptable limits on the kinds and levels of academic and artistic achievement that many students could attain over the course of their school careers” (Freebody et al., p. 63). Delegates at the conference suggested the wording be altered to “make the education of gifted students a priority”. This would include teachers and able students being actively and co-operatively involved in school planning (Clark & Callow, 1998). From the literature examined above, it seems likely that exceptionally gifted students may require differentiated music programs tailored to their individual learning styles, the engagement in specific music genres and styles, and their need to work in a collaborative learning environment that is responsive to and supportive of socio-cultural difference.

Methodology

By choosing a single case study method, the subject of this study, Cassie, was studied over two years, using a combination of the Gagné and the Maker models, and a social interaction theory whereby the student was studied in the context of a rich “milieu” of networks, resulting in a thick description. In-depth interviews of parents, teachers and mentors were conducted. The interview questions used for the subject are included in the appendix. Networks studied included the more supportive ones of teachers (both classroom and one-on-one tuition provided by tutors, coaches or mentors) and peers; fixed networks of curriculums, subjects or courses of study (including professional courses offered

at tertiary level); and finally, diverse groups (including groups of musicians and bands) and community music involvement: choirs, orchestras, church ensembles, and other activities. Steiner and Carr (2003) emphasize that the collaboration of all stakeholders (students, parents, teachers and community groups) is at the hard end of the socio-cultural model and this is the framework for investigation in this case study.

Questions and research goals corresponded to each other (Merriam, 1988; Yin, 2003). This approach to case study ensured the questions in interviews and issues raised in analysis were linked to the overall problem investigated, the fundamental conceptualization of the case (Abramson, 1992; Bassey, 1999). The intent-question-problem match was also verified by Cassie and other informants who read the analysis of the data. Therefore, the criteria for internal and external validity were met. Grounded theory and triangulation of data was the basis of the research, in which implicit theories guiding research from early stages were challenged (Lincoln & Guba, 1985). Additional data-gathering strategies such as diary entries of observations and conversations, school reports and Eisteddfod comments, were also used to provide triangulation and corroboration, ensuring that reliable references were made from reliable data. The researcher gathered all data.

The transcripts and analysis of data was also carried out by the researcher using a process of critical analysis involving data reduction, data display and conclusions. A review of multi-variable, complex and causal explanations was made through interactive synthesis of the data throughout the process (Huberman & Miles, 1994). Principles of “fuzzy logic” were also applied where “everything is a matter of degree... multivalence. It means three or more options instead of just two extremes. It means analog instead of binary, infinite shades of grey between black and white” (Kosko, 1994, pp. 18-19). For example, in Cassie’s socio-cultural environment,

different motivations and learning styles were seen operating within this ongoing rich marketplace of ideas and opportunities. Cassie and her musical achievements were examined in the light of influences such as overlapping professional networks and the ongoing dialogue of communications emerging from these.

In an in-depth interview the subject was asked if she saw herself as gifted, how her talents were developed, how various facilities were used, how and why she was selected for scholarships and prizes as well as the effects of geographic relocation of family and other significant life-changing events (refer to appendix for questions). A questionnaire was also completed and the data sorted. By matching specific narrative and quantitative data, complex causal explanations of factors such as motivation and achievement were tested and analysed to throw light on the question under investigation (Yin, 2003). A constant comparison of data, with sampling of different groups and individuals to maximize similarities and differences, contributed to emerging categories and findings: a refinement and interrelation of categories of information (Strauss & Corbin, 1990). Selective coding of data and the creation and use of memos were processes used to cross-examine all the key statements and domains to ensure all categories were distinct and separate (Strauss & Corbin, 1990, p. 9). Problems were identified and alternative solutions proposed. In this paper, some of these problems and solutions are discussed.

The Maker (1982) model was used to further analyse the data collected by questionnaires and interviews to propose alternative curriculum differentiation appropriate for the socio-cultural environment of this student. It was the most appropriate model for a student who has established a clear sense of identity (Zuo & Cramond, 2001). This is because the Maker model encourages independence and increased depth of understanding for the resilient learner; it is

open, not closed; it is accepting and student-centred and non-judgemental. The model proposes four areas of curriculum development that need to be modified for differentiation to assist gifted students. They are:

- Content: increased emphasis on abstractness and complexity of concepts, not facts
- Processes: higher thinking, group interaction, variable pace and choice
- Products: evaluated with real life criteria; deadlines are set purposefully. Real audiences are presented with open-ended findings, not solutions to problems
- A student-centred environment encouraging independent work and movement, interdisciplinary connections, visiting experts, rich and complex tasks.

Discussion

Educational and musical settings

Cassie finished Year 12 during the period of this study. She believed she possessed an inherent gift for music, and her goal was to become a solo 'cello performer or to participate in the field of professional orchestral performance. She had successfully auditioned in music performance at a prestigious tertiary music institution. In her leisure time, she played in a string quartet that undertook many engagements: concerts, weddings and also backing pop bands to support herself through University. In addition, she joined in the Queensland Youth Symphony and attended instrumental workshops in the vacations. Her instrumental teacher, commenting on her sense of purpose and motivation in relation to future goals, reflected:

She has a sense of purpose now. I have watched her develop into a resilient and passionate musician who is very focused on her music. She expresses her whole personality through music and loves giving others this pleasure. She considers nothing else for a career but to perform.

From the age of two years, Cassie attended Early Childhood music classes in Brisbane. She

commenced the 'cello and choral activities while in Grade Three at a private Girls' School and immediately began to perform in competitions and prepare for exams. Her parents commented on her "high level of musical interpretation and sensitivity expressed in her playing at such a young age." Her primary school classroom music teacher noted her ability to transfer knowledge of musical concepts across a range of musical rhythmic and melodic tasks, using instruments and voice, in different genres. He recalled her "outstanding ability to discriminate pitch by identifying intervals and reproducing melodies on recorder, piano and xylophone with ease" when she was in Grades Three and Four of school. She demonstrated "outstanding improvisation skills when playing the xylophone, and interesting rhythm improvisations on the tambour." The requirement of showing understanding of complex concepts by applying them in different ways, in open-ended tasks, is found in Maker's model of a differentiated curriculum.

As a successful performer on the 'cello from an early age, she undertook further study on that instrument at a prestigious institution, from Grade Five until the end of School, performing in a number of symphony orchestral concerts throughout the year. She was selected for the State Honours program throughout secondary school, participating in orchestral performances at the State Conservatorium of Music with top music students from schools in Queensland. Her special talent was soon noticed by the director of a state youth orchestra, and she was positioned as principal 'cello, a rank she held for the last four years of school. The conductor noticed her rapid improvement in her technique and musicianship after this promotion. She said "it made her want to practice more, because it added some challenge and responsibility to the activity." She was also chosen for her "ability to sight read music to a high standard, her one hundred per cent focus and concentration, and her lovely,

well-projected tone." She won trophies for String Championships at Eisteddfods and performed Sonatas and Concertos at Soirees held in school. Her desire for independence and rich, complex tasks compelled her to participate. This fitted the Maker model of giftedness.

While her initial two years were spent in a state school, where she shone at music and drama, Cassie moved to a private Girls' School for years three, four and five before her family relocated geographically, and consequently experienced co-educational private schooling for the remainder of her education. In senior years of High School, Cassie performed a lead role in the school musical. She sang in award-winning choirs and played solo trumpet in the Stage Band and Concert Band at school, where she held leadership positions. She organised a pop group and performed in Battle of the Bands, which was won by her band. In her community, Cassie loved singing in the Worship Ensemble and playing in the band at her church, and was involved in many social justice projects. Although offered an academic and music scholarship at another private school in years ten, eleven and twelve, she declined as it would mean leaving a close-knit group of friends where she was already enrolled. Her school matched her scholarship offer, and she chose to remain in her familiar environment. In addition, in 2007 she was presented with the performing arts award (scholarship) and trophy.

Unfortunately, in senior years her school was unable to offer sufficiently challenging solo music performance opportunities. Cassie, and other peers who were outstanding performers, felt the negative impact of curriculum changes (the Queensland Studies Authority trial-pilot Music Extension Senior Syllabus, 2007), allowing students to submit recorded examples of their 'performances' for assessment without requiring any live public performance, not even with a single assessor in the room. Only a few students chose to perform for each other, with a teacher present. The removal of Aural Studies in addition

to other changes allowed for an average overall result where several students sat in the top ranking and there was no significant spread of results. However, the whole situation of change and uncertainty in the assessment criteria of classroom music caused added distress to all of Cassie's academic studies. Students, teachers and parents prevailed on Education Queensland to modify these changes. While successful in achieving a fairer system for 2009, (the QSA Music Extension Authority Subject), this did nothing to assist existing students in providing appropriate programs and assessment of musical performance during the intervening senior years. Cassie felt restricted in the development of solo performance skills in the real world.

I missed opportunities to perform and be assessed in small ensembles in conjunction with others of similar ability. Also, I would have loved to be challenged to study my instrument in context with a thorough analysis of the repertoire, and in particular, the harmonic underpinnings, form, style, and melodic invention of relevant repertoire.

Her parents added, "It was her own personal quest for excellence which drove her to raise her standard of technical and musical mastery of repertoire far above that required for many others in her music extension class, and to seek out opportunities to perform."

In Maker's model of a differentiated curriculum, tasks should be related to real-world outcomes, real-life audiences and be linked to community and visiting experts in the field. Interestingly, Cassie achieved the highest grades possible for music. She had displayed a mastery of a wide range of repertoire in voice, brass and 'cello, but did so in a context of dialogue and collaboration with other musicians in her community and at school. She was commended not only for her performance of a Shostakovich Cello concerto, but also for her critical analysis of the work, which synthesised a deep understanding of the musical structure with the socio-political setting of the period in which it was composed. Her

music teacher commented, "Cassie, it has been an absolute pleasure to be part of your musical development. Your enthusiasm, drive and energy for all things musical will be missed. Thank you for your amazing dedication to the extra-curricular music program in bands, strings and choirs. Congratulations on an outstanding finish."

Alongside this achievement, she ranked in the top six to seven per cent of students in Queensland in her overall academic results, with high achievements in physics, chemistry, mathematics, English and music plus music extension. Her chemistry teacher commented that "Her bright personality and co-operative attitude made her an asset to the class" and in physics "You demonstrate a delight in physics and your enthusiasm has been infectious." In English, "Cassie has made many intelligent contributions to the class. She has a thorough understanding of the way text construction is influenced by social and cultural contexts, and has a command of language and critical thinking. She is an articulate and confident speaker, able to debate competently." In overall comments from the Care Group teacher, she was commended for her "ability to build positive relationships within the group. In her role as Cultural Captain she has made outstanding contributions to all sporting, cultural, academic and service activities. Her bright, friendly and caring personality has been appreciated and we will miss her." The Principal added "We are delighted with your success and wish you every blessing for your future studies." Cassie gained entrance into nearly every course offered at any university. She knew exactly where she wanted to be: studying music performance. Her reasons were plain: "I want a real challenge to undertake at university. Music provides that challenge."

Personal characteristics

Cassie was surrounded by music in the home and in her community. Some of Cassie's personal values included belonging to a

church, family tradition and time spent with family and friends. Cassie described herself as “creative, innovative, aware and keen to learn new things”. She saw herself as extroverted in personality and analytical in her approach to learning. Her love of learning and mastering new tasks made her aware of her need for challenges, competition and research in areas of musical analysis and music history. One area of acquired skill was lacking in her early stages of development: she “would have liked some earlier opportunities to play concertos with an orchestra” (Valdez-Guerrero, 2008). Later, her personal goals included being able to make it into the advanced performance course in her second year at university. This would allow her to maintain her focus and to achieve her goal of one day becoming a performer. Selection for AISOI (Australian International Symphony Orchestra Institute) gave her invaluable experience in performance workshops at a national and international level.

She identified science and music as her two main talents. In science she had scored in the top ten per cent in a national competition. Some negative experiences in Cassie’s musical life emanated from her reluctance to practice in the early years. This led to mistakes being made in performance and new strategies and approaches being taken by her tutor in instrumental lessons. The experience motivated her to practice more and this, along with her selection for principal ‘cello, enabled her to excel. It taught her that “everyone makes mistakes and also (that) practice makes perfect”. She developed strategies to solve this problem and her reflection on this difficulty deepened her understanding and made her resilient. As Barry states, “Certainly, music has much to offer in terms of fostering creativity and critical thinking skills” (Barry, 2008). She now exudes confidence in her performance skills and has the motivation to rally and become the best in her field.

3. Family and leisure activities

Cassie’s parents were both musical. Her mother taught both classroom music and instrumental tuition and was director of music at a secondary school. She remembered Cassie at a few weeks of age being able to imitate in tune the vocalizations made by her mother. Her father, an academic, had played brass for many years in a band and studied the piano when a young man. Cassie’s mother had been very ill and this placed immense stress on Cassie. While learning coping strategies, she developed personal spiritual values that formed her into a person who counted the costs of commitment. She realised that the difficulties in career choice, study, leadership tasks and home life were overwhelming at times, along with the physical demands of performance. Her mother noticed “she responded to support in the home. We spent time with her as she practiced music or listened as she tried out her ideas for debates. This built her confidence.” This observation fits Gagné’s model of a rich, supportive socio-cultural environment in the home as important for development of innate giftedness.

Vygotsky (1978) identified the importance of social collaboration and transformative human relationships on the development of metacognition. Cassie maintained close friendships, loving “time out” with her peers. In an Australian culture, it was considered important to maintain a balance between work and play. She loved ice skating, went to the movies or dinner, and organised days out with her friends at the beach. She added, “Time alone reading in my room or watching a movie is really important. I love playing computer games too, and chatting to friends on the internet.” A favourite hobby was painting, and she had some of her work displayed on the walls at home. Other interests included sampling various dishes from cuisines around the world and, with friends, experimenting in cooking these. However, she commented that on average she would have preferred to spend a third of her day practicing the ‘cello.

4. Motivation and musical preferences

Cassie knew herself and managed change well. She had an eclectic taste for music, including rock and heavy metal as well as classical. She had ability to “kick back and relax” to music, and to live life with “lots of laughs” among a wide circle of friends, and this also contributed to her resilience. The present-day attribute of connectedness among peers motivates students, and this can be a positive learning tool (Cohen, 1998; Crocker, 2002). Many pop songs were stored on her iPod, but the majority of music was classical. Cassie also loved musical theatre. In terms of cello repertoire, she preferred Shostakovich, Beethoven and Mahler. While studying works of Shostakovich, her instructor assisted with the use of metaphor. Stories relating the hardships of Russian composers helped put the music into a harsh context, and she was inspired when the rhythmic figures were likened to sounds of a marching army. “She performs with passion, discernment and musical sensitivity” concluded her cello instructor and mentor, “because music is her life.”

Although the study of music opened up many opportunities for personal achievement and global awareness, including a European trip, Cassie found the study of music required overcoming many obstacles. The personal burden of finance, along with physical issues related to practicing the instrument and transporting it, made the journey a difficult one. When choosing a career, she experienced difficulty because equally she would have loved to study science. Multiple potential is an identified attribute of gifted students and it needs to be managed by various approaches taken by educational institutions and career advisors (Willard-Holt, 2008). Significant adults surrounding her had differing opinions on the worth of music education beyond Grade Twelve of high school and keenly debated the relative prestige and success attached to music teaching or music performance in comparison to bio-science,

medicine or architecture. Cassie’s possession of critical 21st century skills such as self-direction, critical thinking, problem solving, motivation and collaboration assisted her when making final decisions.

5. Attributions of ability

Cassie and her parents attributed her success in music largely to her innate ability, but added that her early exposure to music made a real difference to her capacity in aural perception. Her parents observed her singing in tune by imitating her mother’s vocalizations when she was three weeks old. She continued to show interest in any music played in the home and engaged enthusiastically in music activities with other children, improvising on drums and xylophones when two, three and four years of age. Cassie recalled “I had a solid upbringing in music with my family.” With regard to her present studies she reflected:

I’m interested in what I’m doing. I have a passion for that particular type of music and wanted to do it justice. So I worked on it. But the enjoyment and passion probably came from my musical talents being nurtured as a child.

While her early childhood and primary school music activities were positive, she felt her family’s geographic relocation had a negative impact. “My aural skills did not develop as I was unable to strengthen them in classroom music activities.” In terms of the middle school music program, she lost interest as “it was not challenging” and “activities had no relevance to the real world. Having opportunities to conduct a band would have been awesome.” Commenting on activities in class that taught her something new, she replied “I was mostly self-taught, except I remember a unit in Year Ten. It taught me a lot because it was challenging. It was on Twentieth Century Australian Art Music: a comparison of works by Peter Sculthorpe and Stephen Leek. That was a challenge as we did score-reading and identified why it was called art music: it

painted pictures. We justified the musical images represented in the music by analysing the score." The need for complex tasks for motivation is identified by Gagné. Cassie reflected on years eleven and twelve, saying:

It had no significance to my music career. It was all about rock music. I did enjoy the unit on music theatre. There was not enough theory to apply to my level of playing. History of music in middle school was more interesting, as it put music into a context.

In composition tasks, the aim was to write for contemporary performances such as the graduation song or "Battle of the Bands" but "nothing too demanding". "We worked independently, but I would have liked the opportunity to occasionally pool our ideas, discuss alternatives, and come up with something really good. There were three of us who could have worked well together, and were at a similar level." Cassie chose to organise a musical ensemble (trio) involving these students, a way of enacting agency through collaboration with her peers. She was involved in string ensembles in senior years, but was not satisfied with that experience.

We played really silly music, arrangements of pieces in four parts. We didn't really get into it. There was no exposure to the great repertoire of string quartets, like Beethoven, Haydn or Borodin. It wasn't a challenge at all.

Findings

The findings of a similar recent case study demonstrated that life experiences in different cultural contexts can lead to distinctly differing parenting beliefs, styles and practices (Ho & Chong, 2008). This case study acknowledges the role of cultural perspectives in Australia as being a complex mix of parental and caregiver influence; community and peer support and expectations; and educational provisions, philosophies and curricula. Through analysis of information gathered in interviews, a questionnaire, school reports and comments from adjudicators, plus

the researcher's own observations in diary entries, a number of prominent trends have emerged. The study has been useful in throwing light on how a very gifted adolescent in music has interacted with family, peers and the educational system in order to develop and use these gifts for her own benefit and for the enhancement of her social and school environments.

In spite of limitations on her in terms of the music curriculum and school administration, Cassie achieved success in her study owing to the resilience of her character in enacting agency by collaboration with her peers and mentors. Teachers commented on her "bright, caring personality", "infectious enthusiasm", "intelligent contributions" and "ability to build positive relations in the group." She displayed "drive, energy and amazing dedication" as she pursued opportunities in developing her musical ability. Through close investigation into the quality of support afforded her by significant persons, it may be concluded that parental support and early exposure to music in the home and in other Early Childhood settings, were factors that shaped her gifted behaviour. Strong traits of inherent musical ability were evident in her early development and in infants and primary school years, as reported by parents and teachers. Her overriding belief and confidence in herself as a musician, her continued self-motivation, determination and persistence through difficult Middle School years, and her high ability in music performance, were also evident from teacher reports and interviews, parental feedback and Cassie's own responses to interview questions.

Because the impact of socio-cultural influences are so strong in music education, this case study highlights possibilities for a differentiated curriculum based on individual case studies in order to motivate and empower very gifted musicians to achieve at the optimum level. As outlined in the report on provisions in gifted education,

The full range of capabilities and dispositions of highly effective citizens cannot be easily staked

out, nor can the full possibilities for motivation to learn, proclivities for critical analysis and novel combinations of ideas and techniques that students can develop in school. That is, what cannot be readily legislated, enumerated or standardized are the kinds of learnings that syllabuses cannot imagine in advance as outcomes for a given age group in school (Freebody et al., 2003, p. 67).

The study suggests there is a demand for a differentiated syllabus catering for student specialization in areas of personal interest and exceptional ability in the performing arts, including real-life performance opportunities. This would be flexible, open-ended and based on individual case studies of highly gifted students. Performance workshops and conducting opportunities were of particular interest to Cassie, in addition to challenging composition tasks and small ensemble work with peers who demonstrated similar gifts, learning styles and motivation. Other musicians may choose music industry and studio work or contemporary improvisation.

Differentiation of classroom music, therefore, would be for the purpose of effectively catering for individual abilities of highly gifted students by developing ongoing case studies to support, enrich and assess the appropriateness of their learning experiences. The results of this study reinforce the notion that individual case studies based on the student's social milieu and educational environment are vital to the ongoing assessment and curriculum planning of gifted musicians. Deep musical understanding in students is shown to be enhanced by such planning. The educator is encouraged to provide for transformation of dispositions through challenging collaborative activities involving higher order thinking and "taking things apart," questioning and extending ideas in composition and analysis, rather than extrinsic motivational orientations. The application and synthesis of knowledge and ideas occurs as these students enact agency in motivating learning experiences that are relevant to their world(s) and personal

goals (Bargh & Ferguson, 2000; Flückiger, 2006). Cultural, social, linguistic and economic circumstances affect resources students bring to school, therefore educational provisions need to be flexible and administrators aware of these when planning differentiated programs.

Rather than seeking solutions to problems by generating conflict or resolving unmet needs through competition, Cassie enacted agency by working with the complexity of her situation, initiating musical experiences that enriched her life by organizing performances and ensembles, supporting all musicians in her peer group. This is the most significant finding of the study: the overriding influence of Cassie's learning style, her determination to pursue all opportunities to continuously transform her disposition through higher thinking, adjusting to limitations in her environment and developing her musical ability while enhancing the musical culture of the school. If supported by differentiated curricula, exceptionally gifted students could achieve much higher levels of productivity for themselves and for the school community.

Conclusion

In conclusion, this study should be useful to educators and curriculum policy makers, for it illuminates some problems associated with gifted musicians in education. It suggests the need for planning in music education which encourages skills that are multi-dimensional: creative, critical and meta-cognitive. It goes further by demonstrating that skills are not enough. A disposition exists in highly gifted adolescents, driving them to want and need to develop practical and thinking skills, and to synthesise information and practical application through interaction with their peers, teachers and mentors. Curriculum planners and educators must develop an awareness of exceptionally gifted musicians, and facilitate curiosity and inquiry; thinking broadly and making connections; being relevant to the real world

and thorough in reasoning; being organised and planning ahead; and being willing to allocate time and flexibility to think and to create (Maker, 1982). These strategies enhance understanding in music. Problems raised by students may be explored in depth without a “one right answer or technique” approach, to enhance performance outcomes and increase motivation. Motivation and support of student dispositions will also occur as teachers show greater flexibility in working co-operatively with gifted students in the selection of repertoire and other relevant material for study across a wider base of genres, related to their socio-cultural experiences and preferences.

Teachers and administrators need to allow for flexibility in the decision-making of these gifted students, catering for autonomy and learning styles as they choose to work with like-minded peers and mentors. Further differentiation could occur by establishing links with experts in the community or by video-conferencing linked to master classes held at tertiary institutions. Provision for placement of teachers with experience in designing and implementing differentiated programs in music is a possible consideration. Other suggestions from the findings include the urgency for the formation of an integrated, consistent national music curriculum incorporating flexible pedagogy, assessment and reporting appropriate to each student, and quality ongoing music teacher professional development, particularly in the area of curriculum enrichment.

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Appendix: Interview – Gifted musicians in education.**Learning style.**

Rate on a scale of 1-5, 1 being the lowest and 5 being the highest, the answers to these 15 questions:

1. My school brings out the best in me.
2. I can grasp complex concepts at school.
3. My teachers make learning interesting.
4. I am self-disciplined about completing homework/practice/projects.
5. It is important for me to do well at school and university.
6. I like problem-solving which requires details, facts and structured practical solutions.
7. I like problem-solving which requires the judgement of ideas and values.
8. I prefer to work alone.
9. I prefer guided instruction with an organized person/expert in the field.
10. I prefer to learn as part of a group.
11. I learn best through visual information.
12. I learn best through listening (e.g. to music).
13. I learn best through active participation (e.g. through performance in music).
14. How much have strong social support networks (e.g. family, peers, music groups, teachers, church) contributed to your success in music?
15. How much do you think your success in music has been due to your inborn natural ability/talent?

Self-concept.

How would you describe yourself?

What do you like/dislike about yourself (strengths/weaknesses)?

What kinds of activities are important to you?

Personal influences.

What makes you the person you are now?

(Name the influences that have shaped your personality, your experiences, and your plans).

Start as far back as you can remember, and tell me about the influences on your life, up to now. Take your time thinking about this.

Motivation for goals.

Why did you come to see this as the most important goal/challenge for your future?

Talent development.

List the subjects in which you are talented.

Musical development.

What role will music play in your adult life?

Do others (parents, peers and teachers) see your involvement in music as important?

Do your parents feel you were born with special musical ability?

Do your music teachers feel you were born with special musical ability?

Did your regular classroom teachers support your involvement in music (Pre-school; Primary; Secondary)?

Did your parents support your musical ability?

Did your close friends support your involvement in music?

At what age did you first sing or play for an audience?

How old were you when you received your first award or recognition in music?

Musical Preferences.

Rate these eight musical styles in order of preference:

<i>Opera</i>	<i>Folk</i>	<i>Classical</i>	<i>Jazz</i>
<i>Rock</i>	<i>Rap</i>	<i>Soul</i>	<i>Pop</i>

Do you prefer

Heavy music (hard rock, heavy metal, rap)

Light music (pop, ballad, dance)

Eclectic music (balanced according to needs, mood, etc)

<p>Why do you listen to/play music? Please rate from 1-5 on the scale (15 questions).</p> <ol style="list-style-type: none"> 1. To compete: I like competing with others. 2. To enjoy music 3. I'm good at it 4. It's useful to earn a living 5. To be creative/use my imagination 6. To help get through difficult times 7. To relieve tension/stress 8. To be trendy/cool/impress people 9. To explore my emotions/feelings 10. To please my parents 11. To please my friends (I like their company) 12. To reduce loneliness 13. The satisfaction of improving/getting better at something 14. To relieve boredom – it's interesting 15. It's challenging, difficult
<p>I like music that is ... (rate on a 1-5 scale)</p> <p>Romantic, dreamy/mild, quiet/sad, gloomy/peaceful, relaxing/serious, thoughtful/good natured/kind/upsetting, protesting/tough, hard/loud, played at a great volume/wild, violent/played with many guitars or drums/played at a fast tempo.</p>
<p>Time allocation.</p> <p>Estimate the per centage of time spent in these five areas in one normal week:</p> <ol style="list-style-type: none"> 1. Time spent alone 2. Time spent with family – parents only; siblings only; parents and siblings. 3. Time spent with friends 4. Time spent with classmates/workmates 5. Time spent with musicians
<p>Estimate the per centage of time spent doing these eleven activities in a week:</p> <p>Outside employment/chores around the house/transportation/studying, school or uni/playing music/listening to music/watching TV/DVD/playing sport or training/family activities/thinking activities/socializing.</p>
<p>There have possibly been bad times or experiences in learning music. Describe these.</p> <p>How have these negative outcomes led to positive solutions?</p> <p>How much has coincidence led to opportunities in music?</p> <p>How has your ability in music served you well/been an asset?</p> <p>(Socially; self-confidence; academic advantages)</p> <p>How has your ability in music been detrimental or contributed to problems?</p> <p>(Socially; anxiety/pessimism; cynicism/boredom; perfectionism – pushing self too hard; difficulty in choosing a career)</p>
<p>Describe an experience of your own performance in music which you remember as remarkable or outstanding. How did it make you feel?</p>