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THE BENEFITS OF **MUSIC EDUCATION** IN SCHOOLS

A RAPID EVIDENCE REVIEW



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ABOUT THIS REPORT

What is a Rapid Evidence Review?

A Rapid Evidence Review (RER) is a form of systematic review (Petticrew and Roberts, 2006; Dobbins 2017). It is a survey of published research guided by key questions by which items are selected or excluded. The RER is inclusive of all research designs and methodological approaches. As suggested by the name, it is designed to be a fast-paced and efficient approach to a systematic review[1]. A RER is used to quickly establish an overview of a particular topic, document a large quantity - but not necessarily all - of the existing research that is available and summarise the findings of the selected research items. This RER on the benefits of music education does not incorporate a 'critical appraisal approach' as outlined in some guidebooks, so we do not critique the research methods or methodologies of the items included in our RER in this report (Dobbins, 2017: 17). We present a range of literature reviewed at a fast pace to offer an overview of recent research on the benefits of music education in schools. The boundaries of this RER are outlined below, but it is important to state here that the principal focus for this work is England, and the school classroom.

Why a Rapid Evidence Review on Music Education?

Music has been a statutory component of the English National Curriculum since its inception in 1992. However, we know that its place as a taught subject in primary schools is not necessarily guaranteed by its statutory status (inter alia Daubney et al., 2019). We also know that many generalist primary teachers struggle with the notion of teaching music as part of their day-to-day work (Hennessy, 2017; Evans and Fautley, 2024). Similarly, in secondary schools we know that music sometimes struggles to find a place in the school timetable (Bath et al., 2020), and that there can be problems associated with this (Bate, 2020).

We undertook this RER on the benefits of music education following the approach taken by Patricia Thomson and Liam Maloy in their RER on the benefits of Art, Craft

[1] This rapid evidence review was also time-limited as we only had funding for three months.

and Design education completed in 2021 (Thomson and Maloy, 2021). We will refer to this review as the ACD RER (2021) in this report.

We wanted to know what there was about music education that could go beyond the usual advocacy routes – many of these stemming from a North American perspective – and try to uncover what there is about music that can be perceived to be of intrinsic and extrinsic benefits arising from the subject itself, and to do this in such a way that would be of use to a range of interested parties, including policy makers, as well as educators.

How we conducted the Rapid Evidence Review

We collected published scholarship that explored the benefits of music education for 3–18-year-olds published between 2004 and 2024. Our focus was research in the English language. This could be local to our focus on the United Kingdom (UK) or international, curricular or extra-curricular but with a connection to formal education.

To select the papers, we searched the contents of various journals from the relevant period. We used Google Scholar, publisher websites, databases and subject specific websites[2] created by researchers collating evidence on the benefits of music education. A range of databases were used which surveyed slightly different selections of literature. We used the following search terms in various combinations:

> music education / school / curriculum / curricular / extra-curricular / classroom / children / young people / students / pupils / learners / participants / benefits / value / impact / positive outcomes / cultural capital

Each search was logged using a unique name and the number of results recorded. For example, one particular search on Google Scholar used the search terms "music education" AND (school OR curriculum OR curricular OR extra-curricular OR classroom) AND (children OR young people OR students OR pupils OR learners OR participants) AND (benefits OR value OR impact OR "positive outcomes") with the date range restriction of 2004-2024 and this brought back 40,800 results. Using this same Boolean search across several other databases, journals and publisher websites, an additional 8,328 items were found. Once an additional search term of “cultural capital” was later included, an additional 5,050 items were located. When we found a paper of possible relevance, we skim-read each abstract/paper, asking:

- Does this paper address the benefits of music education in schools?
- What benefits are said to come from music education?
- How are these benefits produced?
- Are there any barriers to the benefits noted?
- What type of research is this?
- Does the article include empirical evidence of these benefits, and how?

A helpful tool for efficiently reading abstracts for multiple items was the application Covidence[3]. To further assist in processing our search findings we also explored Generative Artificial Intelligence tools. The main tool utilised was *NotebookLM* by Google[4] which allowed us to ask the above series of questions of up to fifty items at

[2] https://musiceducationworks.wordpress.com and https://www.artsedsearch.org

[3] https://www.covidence.org

[4] https://notebooklm.google

once. The summarising feature of this tool was of less relevance to our research, as our RER included more items than could be reviewed at once, but this AI tool was able to assist in rapidly providing the basic details for our corpus. Other tools such as *Connected Papers* and *ChatGPT* were considered.

For large numbers of search findings, such as via *Google Scholar*, a manual approach to screening items was considered preferable, due to the nature of the website and the amount of search results. We set a limit of ten pages of search results to screen in total, scrolling through the items on these pages, reading titles and/or abstracts to decide on relevance to the review and exporting the citation for items to include.

An 'out of scope' category was added to sift items which were read, discussed and deemed not to meet the initial search criteria. This included items where music education was not the focus, for example music therapy research. Or if a particular student population was the focus, such as violin students, as opposed to mainstream music education. We also excluded items where the benefits of music education for children was not a focus and the research was instead covering other topics such as pedagogical approach, music technology or the benefits of music education for adults. Items where the research crossed over into further or higher education, going beyond the scope of the age range, were excluded. Video evidence, infographics or articles that mentioned benefits in passing as a literature review, but where the study had a different focus, were also discounted.

Important to note is that our searches did locate research items that found no benefits of music education. For example, we found one item detailing randomised trials that found no consistent evidence for non-musical cognitive benefits of preschool music education (Mehr et al., 2013). We included this item in our evaluation of research types and regions of research, but as it did not provide evidence for the benefits of music education, was not included in our benefits totals.

We did include research that explored the benefits of music education for children and their family members. We decided that teacher education literature could be included where it related to the benefits of music education afforded to children. Theoretical and philosophical literature was also included if it synthesised previous applied research on the benefits of music education. As per the ACD RER (2021) we also included 'think pieces' and state of the field articles as research items.

Some of the technical barriers faced while completing this RER included expired URLs, where searches found sources that were no longer available. Where articles required subscriptions that neither researcher had institutional access to we were unable to pursue this lead, due to time constraints and budgetary restrictions. Due to a cyber-attack on the British Library during the period of research we were also unable to access dissertations via EThOS that we may have otherwise included (British Library, 2024: 10). We also found the search tool on some publisher websites were not effectual in surveying available literature on the benefits of music education, so some books or chapters may have been missed due to this.

Recording the details

Once an item had been selected for possible inclusion in our review, a selection of key information was recorded for each source:

- author/s' name/s, editor/s' name/s
- title and date of the research and publication
- the research methodology/ies used to collect the data
- the age and number of research participants

- the geographical location of the research project
- the scale and duration of the research
- the duration and nature of any music education intervention
- the answers to the questions about the benefits of music education (see p.2)
- the main research findings
- the benefits of music education documented

This information was then inputted into a master spreadsheet used to record information and assist in writing this report. An extract of this spreadsheet is included later in the report (see *Table 5*). A Zotero library was created to store all the research titles.

From a total of 54,178 search results, we included 291 titles in our review. This is research sourced from a wide variety of journals, books, magazines and other online sources. The journal contributing the largest number of papers was *Music Education Research* (50 papers) followed by the *International Journal of Music Education* (29 papers), *Journal of Research in Music Education* (23 papers) and *British Journal of Music Education* (22 papers). For a full list of journals included in the RER please see *Appendix*.

The initial set of items was divided into six main areas. Each title could belong to more than one benefit category and in this case were coded in each relevant benefit theme (and subgroup) as explained in the coding section.

This report

We have not provided a complete list of texts collected and reviewed, as is the usual approach with a RER. We have included references to support our analysis, but we have not included all the papers from the corpus within the report itself.

The report has six sections:

(1) About this report

(2) What is music education in the context of this RER?

(3) The benefits of music education

   a. Being and becoming

   b. Cognition

   c. Health and wellbeing

   d. Music education subject learning

   e. Pathways

   f. Transfer of music education learning

(4) Conclusion

(5) Appendix: source journals

(6) References

THE CORPUS

Firstly, we will outline the corpus reviewed, which is in itself informative. This section includes information on the primary country of origin for each piece, the focus of the study and the types of research included in our review.

Country of origin

Nearly half of the corpus in our rapid evidence review is comprised of research undertaken in the United States or the United Kingdom (*Table 1*). The first four rankings include the same countries in the same order as in Thomson and Maloy's ACD RER (2021). As per their RER, this is unsurprising in a review that is restricted to publications in the English language. We are very aware that there are relevant publications in languages other than English that we were unable to include.

Country / Continent	**Number of papers**	**Percentage of sample** To nearest 1%
USA	90	31%
UK	53	18%
Australia	31	11%
Other: Europe	26	9%
Various	24	8%
Canada	18	6%
Spain	12	4%
Other: Asia	8	3%
Other: South America	7	2%
China	6	2%
Finland	5	2%
Germany	5	2%
Other: Africa	5	0%
Other: Oceania	1	0%

Table 1: Primary location of the research

Countries included in the 'Other' categories include those with four or fewer publications in the review:

> Portugal, The Netherlands, South Africa, Brazil, Hong Kong, Ireland, Italy, Slovenia, Belgium, Croatia, Cyprus, France, Hungary, Israel, Latvia, Norway,

Poland, Sweden, Switzerland, Turkey, New Zealand, Democratic Republic of Congo, Colombia, Chile, Venezuela, India, Japan, South Korea and Taiwan.

Focus of the Research

The research included in this RER has a range of foci, motivations, research contexts and methods. Some of the items in our review focused primarily on the benefits of music education. In other items, the benefits of music education were secondary to an additional focus. Some of the additional music education topics covered by research in this RER include:

- pedagogical approaches
- affordances of different settings
- assessment
- inclusion of particular genres or musical types
- perspective of a particular social group/demographic/parents
- inclusion of music education within other schemes
- evaluation of projects or programmes

All the items in our corpus, however, did address the benefits of music education in some way.

Coding

The initial stage of our analysis was to code the benefits of music education found across the articles. From the answers gathered in response to question 'What benefits are said to come from music education?' we selected keywords and then created a set of benefit codes 1-3 words in length to assign to each item.

We discussed the grouping of these benefit codes and decided upon thirteen benefit types. See below *Table 2* for the benefit types ranked by frequency of appearance within the research from the UK and overall.

Type of Benefit	Global Rank	Global Total	UK Rank	UK Total
a) Cognition	1st	134	=1st	23
b) Inclusion	2nd	110	=2nd	20
c) Agency	3rd	99	=1st	23
d) Social Skills	4th	89	=2nd	20
e) Wellbeing	5th	78	=2nd	20
f) Knowledge, skills, techniques, practices	6th	66	3rd	16
g) Transfer of music education learning	7th	52	5th	8
h) Aesthetic learning	8th	37	4th	10
i) Identity	9th	32	8th	2
j) Creativity	10th	27	6th	5
k) Citizenship	11th	22	=7th	4
l) Physical development	12th	13	9th	1
m) Pathways	13th	11	=7th	4

Table 2: Overview of music education benefits across RER globally and in the UK publications

The benefit type that was most dominant across the RER is the positive benefit of music education on the cognitive abilities of 3–18-year-olds. We explain our definition of **cognition** as a benefit type, later in this paper. Something to note here is that the impact of music education on the **agency** of children was of equal importance to cognitive benefits within UK research, but less so globally. The increased focus of agency as a benefit of music education in the UK is something we will explore in more depth later in this report.

Once we had coded our thirteen benefit types, they were then grouped into six benefit themes. This was a process which took time and required several discussions. The six benefit themes are as follows – note that numbers 2, 5 and 6 are categorised as both a type of benefit and a benefit theme:

1. Being and becoming
2. Cognition
3. Health and wellbeing
4. Music education subject learning
5. Pathways
6. Transfer of music education learning

It is entirely possible that another set of researchers undertaking a similar RER with the same scope may have decided to code the benefits of music education differently to us. For clarity, we have included the codes in our analysis of the benefits.

Research designs

Our analysis showed that four empirical research designs dominate research on the benefits of music education – case studies and case reports – with state of the field analyses, case-control studies and surveys also popular research methods (*Table 3*).

Abbreviation	**Research type**	**Number** out of 291	**Percentage of sample** To nearest 1%
CS, CR	Case studies and case report	53	18%
SOF	State of field analysis	40	14%
C-CS	Case-control study	38	13%
SUR	Surveys	31	11%
MM	Mixed methods	26	9%
IBS	Interview-based study	20	7%
COH	Cohort study	15	5%
TP	Think piece	14	5%
(A)ETH	(Auto) Ethnography	9	3%
MA	Meta-analysis	9	3%
RCT	Randomised controlled trial	8	3%
GP	Government paper	7	2%
C-SS	Cross-sectional survey	6	2%
Other	Scoping review, a/r/tographic inquiry, Literature review	5	2%
AR	Action research	4	1%
SR	Systematic review	4	1%
PHEN	Phenomenography	1	0%
EXP	Experiment (lab based)	1	0%

Table 3: Primary research method of each paper globally

These rankings remained broadly true within the UK research (*Table 4*) but mixed methods and government papers also ranked highly. This shows the increased use of research employing both quantitative and qualitative research methods within the

same study, and the presence of reports by OFSTED and the Department of Education within the corpus.

Type of research overall	Number of UK titles Out of 53	Percentage of sample To nearest 1%
Mixed methods	11	21%
State of field analysis	9	17%
Case studies and case report	7	13%
Government paper	7	13%
Surveys	4	8%
Case-control study	3	6%
Cohort study	3	6%
Interview-based study	2	4%
(Auto) Ethnography	1	2%
Think piece	1	2%
Meta-analysis	1	2%
Randomised controlled trial	1	2%

Table 4: Primary research method of each UK paper

According to our RER, the UK has had no systematic reviews, cross-sectional surveys or action research published on the benefits of music education in the period 2004-2024.

What is music education in the context of this RER?

The issue of what counts as music education is a complex one, and given the context of this RER, we needed to be quite specific, as otherwise the sheer numbers of publications that could have been involved would have been overwhelming in terms of being able to be 'rapid'. As the authors of this RER are UK-based, the primary notion of what counts as music education has been taken to be that which would be nationally recognised, as well as having meaning on the international stage. However, this does mean that a working definition of what music education is, and what would therefore be included in this RER, needs to be both described and discussed.

Music education as a totality can probably be best be described as a broad church, encompassing many disparate activities across a range of styles, types, genres, instruments, voices, traditions, and cultures. One-to-one instrumental tuition, small group tuition, rock bands, marching bands, gamelan ensembles, choirs, sitar groups –

all these and many more are to be found as examples of music education. Formal schooling in different contexts also shows a variation in type and approach. In the USA, for example, much school-based music education is focused on what has been described as being:

> The so-called triumvirate of wind band, choir, and orchestra, the omniscient conductor / pedagogue, and the associated Western Art music repertoire still reign supreme… (Butler and Wright, 2020: 100)

In this sort of music education, repertoire-based teaching and learning are the order of the day. Contrast this with the situation which appertains in the state sector of the UK, where there is a National Curriculum in place (Department for Education, 2013a) which situates what might be termed as being generalist classroom music as a statutory feature in the education of all children and young people.

What this means is that we have taken the notion of what music education looks like, and, importantly, sounds like, in the context of the United Kingdom, and used this as the defining and refining feature for inclusion in this RER. It is important to note at this juncture that each of the constituent countries of the UK have their own national curriculum in place, differing from one another in some details, however, they still have the same essential philosophical underpinning. In this music education system, there are three more-or-less equal pillars of musical endeavour, namely composing, performing, and listening. Each of these are, however, generalist approaches to these aspects of musical learning. Performing is undertaken using classroom instruments such as tuned and untuned percussion, electronic keyboards, guitars, ukuleles and recorders. Technology and computers have an ever-increasing role in this too. Composing is not necessarily a paper-and-pencil affair involving music manuscript – although it can be – but is more likely to involve the children and young people creating their own music directly into sound using the same instruments as they have been learning to perform on. Listening can involve many forms, styles, and genres of music. These music classes are timetabled as a normal part of the school day, are taken by all the pupils not just those who have elected to do the subject (music becomes an optional subject in the UK at age 14+), and are a regular and routine part of teaching and learning.

Aside from the National Curriculum, there is also a Model Music Curriculum (MMC) (Department for Education, 2021a) available which, although a governmental publication, is non-statutory guidance designed to sit alongside the National Curriculum in and for England. The MMC describes classroom music education thus:

> The MMC takes as its starting point the ambition that every young person should be able to experience music and to make progress. (Department for Education, 2021a: 7)

This is a useful definition for us to use when thinking about the sorts of studies that can be included in this RER.

As well as the MMC, there also exists a National Plan for Music Education (Department for Education, 2022) published by a former government, which was intended to set out what the then government believed a joined-up music education provision would look like. For our purposes in this RER, however, we are concerned with how things are, rather than how they ought to be, and so in terms of addressing this is/ought dichotomy, we have taken the stance of looking at research evidence which is, as far as possible, rooted in the ontology of classroom music lessons.

The upshot of this is that we mainly considered research papers concerned primarily with generalist classroom music learning, or music education taking place between a teacher and a group of students, which can appear differently across music education contexts. If we felt items were useful in their specific focus on music education

benefits, but took place beyond the English classroom, they were included. Some of the research in this RER, therefore, includes ensembles work, music education occurring outside the classroom aside from weekly school timetables and does include some pieces evaluating the benefits of schemes or music education approaches such as *Musical Futures* or *Sing Up!*

Our overall focus were papers concerned with music education which took place in school classrooms, intended for all pupils to participate in, and which were a normal, regular, and routine part of the school day. However, and importantly, we have also included seventeen papers from early years settings, 6% of the total number of items in our review. These have relevance to this RER as they are concerned with musical learning and the benefits thereof, despite lying outside the formal schooling structures which appertain in England: here the ages 0–5 are covered by the early years foundation stage (EYFS), which sets standards for the learning, development and care of children in this age range.

The benefits of music education

A wide variety of benefits of music education are documented in the literature included in our review. This section of the report offers an overview of these benefits, as categorised by us as part of our review, and the amount of research found to be evidencing them. We present the thirteen benefits of music education found in the corpus which, as described earlier, are grouped into six larger themes. We explore each theme and associated benefits in turn. We include some of the same theme and subgroup names as used in the ACD RER (2021), but we code, categorise and define these as best fits the findings of our RER and the music education context.

We firstly overview the larger benefit themes e.g. ***Being and becoming*** which are arranged in alphabetical order. Within some of the theme categories are benefit subgroups, that we define in turn e.g. **agency**. We consider the corpus for each theme and/or subgroup and share data regarding the methods used to investigate the benefits presented. As this is a study primarily investigating the benefits of music education in English schools, we provide a comparison of the variety of research design used to investigate that benefit globally and more locally, in the UK. To understand the nuance of the benefit subgroups, we outline the codes assigned to the benefit type and identify which codes appeared with the most regularity. Finally, we explore how this benefit has been discussed in the literature, referencing key items from the corpus to illustrate some of the main concerns for researchers in these areas.

Theme	Theme totals	Percentage (of reviewed items)	Subgroup	Subgroup totals	Percentage (of reviewed items)	Rank (all)	Rank (UK)	Percentage (of UK)
Being and Becoming	201	69%	Agency	99	34%	3rd	=1st	47%
			Citizenship	22	8%	11th	=7th	8%
			Identity	32	11%	9th	8th	4%
			Inclusion	110	38%	2nd	=2nd	41%
			Social skills	89	31%	4th	=2nd	41%
Cognition	132	45%	/	/	/	1st	=1st	47%
Health and Wellbeing	93	32%	Physical development	13	4%	12th	9th	2%
			Wellbeing	78	27%	5th	=2nd	41%
Music Education subject learning	110	38%	Aesthetic learning	37	13%	8th	4th	20%
			Creativity	27	9%	10th	6th	10%
			Knowledge, skills, techniques, practices	66	23%	6th	3rd	33%
Pathways	11	4%	/	/	/	13th	=7th	8%
Transfer of Music Education learning	52	18%	/	/	/	7th	5th	16%

Table 5: Overview of benefit themes, totals and rankings

BEING AND BECOMING

69% of the total items included in this RER mention how music education benefits children and young people across a themed group of benefit types that we refer to in the report as ***Being and becoming***. This includes the subgroup categories of **agency**, **citizenship**, **identity**, **inclusion** and **social skills**. We have grouped these benefits together as they are closely linked, broadly relating to the self as both an individual and a member of society.

Agency

Agency refers to an individual's ability to make decisions and control their actions. In addition, it alludes to the feeling one has about this process, a sense of one's own abilities and power to act. In the ACD RER (2021) Thomson and Maloy helpfully define agency as the following:

> Agency is both a process and a goal. Agency is not only about what students are allowed and/or supported to choose, decide and do, but also the knowledge and skills (or capabilities) that they have learnt that allow them to make meaningful decisions and take considered action. (2021: 28)

Agency is centred around the self, as can be seen by the number of *self-* prefixes attached to the codes for this benefit. Having agency means pupils can motivate themselves to participate in lessons, create goals for their learning, reflect on their achievements and develop a sense of ownership over their educational achievements.

The Corpus

In our review there are 99 papers, 34% of the total items reviewed, that address the **agency** of pupils. Of these, 27 are from the US (30% of the total US papers) and 23 from the UK (47% of the total UK papers). It is notable that within the corpus, researchers from the UK focused on agency as a benefit of music education 13% more frequently than was studied globally. Agency was the most-researched benefit within the UK body of research in our review (equal first place with ***Cognition***) and the third most-researched benefit overall.

Type of study	Mixed methods	Surveys	Case studies and reports	Interview-based study	State of the field analysis	Think piece	(Auto) ethnography	Case-control study	RCT	Action research	Cohort study	Govt. paper	Other	Cross-sectional survey
Global	15	15	14	13	11	6	4	4	4	3	3	3	3	1
UK	7	3	3	2	2	1	1	-	1	-	-	3	-	-

Table 6: Types of research design for agency

In our RER, grouped together within the benefit subgroup of **agency** are the following codes:

> *agency, attendance rates, autonomy, behaviour, confidence, discipline, empowerment, independence, leadership skills, motivation, patience, perseverance, planning skills, problem solving, resilience, self-control, self-discipline, self-efficacy, self-evaluation, self-expression, self-regulation, self-reliance* and *voice*

Within the codes collated for this benefit subgroup, the code *confidence* appeared the most regularly of all, in a third of the items collated.

Overall, researchers found that confidence was gained by young people via mastering musical skills, taking part in performance opportunities and was often increased by positive learning environments. Improvements in confidence were observed across a range of age groups involved in a variety of music education. Some studies also noted improvements in the confidence of pupils in other subject areas (Hallam, Creech and McQueen, 2016). We return to the topic of benefits to other educational areas in our ***Transfer of music education learning*** section.

Areas related to improved self-management such as *motivation, self-regulation, self-efficacy* and *self-discipline* were benefits coded under agency found across multiple research items (Bentley et al., 2023; Zelenak, 2015; Howe, 2022). This section also explored how music education, particularly informal learning approaches and student-directed activities, foster autonomy for young people and a greater sense of ownership over their learning. For example, students feeling able to refer to themselves as musicians (Wright, 2015). The benefit of music education on agency is one way in which pupils are able to use their voices to guide and shape their experience of musical learning.

Citizenship

Citizenship is a term used to describe the status held by an individual in connection with a particular state or geographical location. It is defined in a variety of ways dependent on the context. Who is, or is not, granted citizenship is often a contentious and political matter.

Citizenship is a school subject statutory in England at secondary level intended to provide pupils 'with knowledge, skills and understanding to prepare them to play a full and active part in society' developing an 'awareness and understanding of democracy, government and how laws are made and upheld' (Department for Education, 2013b). In this report we are concerned with how learning around citizenship takes place within music education.

As a benefit subgroup of this RER, a broad interpretation of the term has been used to encompass a sense of social understanding and civic participation. The term is used in this report to refer to the way in which a child or young person may gain an understanding of themselves in relation to their social world and develop a sense of community.

The Corpus

A total of 22 papers addressed students' sense of **citizenship**. Of these, 7 are from the US (8% of the total US papers) and 4 are from the UK (8% of the total UK papers), making this a benefit that gathered an equally limited focus across both key locations.

Type of study	Case studies and reports	Interview-based study	State of the field analysis	Case-control study	Action research	Auto) ethnography	Govt. paper	Mixed methods	Other	Phenomenography	Surveys	Think piece
Global	4	4	4	2	1	1	1	1	1	1	1	1
UK	1	-	-	-	-	-	1	1	-	-	1	-

Table 7: Types of research design for citizenship

The benefit subgroup of **citizenship** includes research that we assigned the following codes:

> *civic engagement, intercultural competence, respect, responsibility* and *social responsibility*

Respect and *responsibility* were the codes appearing most frequently in the set. For example, one early years study on music education and the development of social values of preschool children found that 'the experimental group's posttest (T2) scores of love-tolerance, respect, responsibility, cooperation-helping and courtesy and the scores of the overall total scale were more favourable than that of the control group' (Öztürk and Can, 2020). The only example of phenomenography included in this RER featured quotations from secondary school aged students who

> included the notion of respect in replying to the question whether learning multicultural music is a good thing: for example, one student mentioned "in a situation where there is different music, you won't be able to enjoy it because you can't grasp that music, so it is important to understand and respect music from other cultures" (Nethsinghe, 2012: 389)

Although there are relatively small numbers of papers exploring this benefit, the impact of music education on citizenship skills was found across age groups.

Identity

Identity is a term for the ideas one has about oneself as a person, a sense of self. Music offers a medium via which one can express one's identity in sound i.e. the music one chooses to play, listen to or compose. There are a wide array of factors that might influence a person's identity. It is the impact and effect of external influences, such as music education, that is often the subject of research on the identity of children and young people.

The Corpus

32 papers in the review looked at the theme of **identity**. Of these, the US contributed the largest number, 7 items (8% of the total US papers). 11% of items in the corpus included the impact on students' identity as a benefit of music education. This is the

one benefit UK studies explored less frequently than the global average, with only 4% of items from the UK including this as a benefit.

Type of study	Case studies and reports	State of the field analysis	Mixed methods	Surveys	(Auto) ethnography	Action research	Interview-based study	Other	Cohort study	Meta-analysis	Phenomenography	Systematic review
Global	6	5	4	4	3	2	2	2	1	1	1	1
UK	1	-	1	-	-	-	-	-	-	-	-	-

Table 8: Types of research design for identity

This subgroup includes literature categorised by the following benefit codes related to student **identity**:

> *adaptability, ambition, aspiration, cultural maintenance, honesty, musical identity, self-identity* and *sense of self*

The literature reviewed here mostly addressed how music education enhanced students' *sense of self* and *musical identity*. For example, in one study with primary school children in Brazil the researcher found that

> the cycle between the activities of composing, presenting and criticizing musical productions – activities understood within a broader educational process of construction of identity in the context of a community of musical practice established in the classroom – can indicate a possible alternative to traditional learning. (Beineke, 2013: 288)

Another piece of research from China found that culturally responsive music teaching 'significantly improved the sense of ethnic identity among junior high school students from the Yi, Han, Mongolian and Tibetan groups' (Guan, Luo and Matsunobu, 2023: 612). There is much that could be said regarding the relationship between music and cultural identity that goes beyond the scope of this report.

Impact of music education on **identity** was not researched a great deal within the UK context where there has been a greater emphasis on the benefit music education has on agentic expressions of selfhood (see **agency**). We might view this distinction of a greater interest in understanding the effect of music education on how students operate socially, rather than explore how it benefits a personal sense of self.

Inclusion

A topic that is frequently discussed in the context of education is inclusion. It is interpreted in a wide variety of ways, meaning it is key to define our use of the term as one of the benefits of music education featured in this report.

Inclusion refers to the action or state of an individual or group being incorporated to a broader social structure or involved in a particular activity. It implies a state of belonging and the feeling of being part of a larger group.

Inclusion is also a term (often partnered with equality and diversity) that refers to a practice of seeking equal access in spaces where people have been marginalised or excluded. This may be due to a wide variety of factors that might include disability, race, ethnicity, gender, class and economic barriers.

Within English music education, one organisation known for their work on inclusion is Drake Music. They define inclusion as an active process, about 'change, equality, access and action' where 'making music is the key' (Drake Music, 2024). The four principles of inclusion according to Drake Music are:

- belonging
- understanding
- participating and contributing
- value and achieving (ibid.: 5)

Inclusion represents children or young people having the same music education opportunities as one another, where all can achieve and progress academically. It also describes the circumstance where music-making creates social connection and a feeling of togetherness.

The Corpus

Inclusion is the second-most researched benefit of music education overall, and the second-most researched benefit within the UK (alongside **social skills** and **wellbeing**). There are 110 items that address this theme, including 28 from the US (31% of the total US papers), 20 are from the UK (41%), 13 from Australia, 12 by authors from a variety of locations and 11 pieces were from Canada.

Type of study	State of the field analysis	Case studies and reports	Case-control study	Interview-based study	Mixed methods	Cohort study	Surveys	Think piece	RCT	(Auto) ethnography	Meta-analysis	Govt. paper	Action research	Other	Systematic review	Cross-sectional survey	Phenomenography
Global	21	18	9	9	9	7	7	6	5	4	4	3	2	2	2	1	1
UK	4	4	2	1	2	2	1	-	1	-	-	3	-	-	-	-	-

Table 9: Types of research design for inclusion

The subgroup for **inclusion** addresses the items that explore the benefits of music education for students in the following areas:

academic achievement, academic progression, broaden horizons, cultural awareness, cultural capital, inclusion, integration, school readiness, sense of belonging, sense of community, social awareness, social capital, social justice and *social mobility*

A large selection of literature coded within this category focused on *academic achievement* as a benefit of music education. One study found that instrumental tuition led to improved English and Maths scores in 11–16-year-olds, particularly benefitting those children from low-income families (Baker, Hallam and Rogers, 2023). Inclusion in this sense is the benefit of music education in enhancing academic equity.

Another common finding from this section of the corpus was the positive impact of music education on a sense of belonging. For example, an Australian study looking at socially inclusive practices in the music classroom with a focus on young refugee students found that music education positively impacted the students in three areas: 'personal wellbeing, social inclusion (a sense of belonging), and an enhanced engagement with learning' (Crawford, 2020). Another facet of inclusion as a benefit of music education is when pedagogical approaches create opportunities for those at risk of being excluded to thrive in musical learning.

Another piece of research identified the impact of music education on the development of children's social capital and wellbeing, with some participants of the music project featured in the research expressing an interest in continuing to play a musical instrument following the conclusion of the programme (Ward et al., 2023). This is an area of interest in music education research that overlaps with our ***Pathways*** benefit theme described later in this report.

Social Skills

The term social skills refers to the ability of an individual to connect and communicate with other people. Within the context of music education, social skills enable learners to be able to play as part of an ensemble, working together musically and/or verbally to negotiate a joint approach to musical collaboration.

The Corpus

Social skills is the fourth-most researched benefit subgroup of music education overall, and second-most researched benefit within the UK (in joint place with **inclusion** and **wellbeing**). There are 89 items that cover the impact on social skills which is 31% of the items included in this RER. Of these items, 20 are from the UK (41% of the total UK papers), 15 from the US (17% of the total US papers), 12 from Australia (39% of the total Australia papers), 7 by authors from a variety of locations (29% of the total papers from various locations), 7 from Spain (58% of the total Spanish papers) and 5 pieces were from Canada (28% of the total Canadian research). The benefits of music education on social skills has taken a larger focus overall in the UK than the global average – with 10% more research items from the UK including this as a benefit. There is also a particularly high focus on social skills in Spanish research items.

Type of study	Case studies and reports	State of the field analysis	Mixed methods	Interview-based study	Surveys	(Auto) ethnography	Case-control study	Action research	Think piece	Other	Govt. paper	Systematic review	Cohort study	Meta-analysis	RCT
Global	18	14	10	9	7	6	6	4	4	3	2	2	2	1	1
UK	2	5	7	1	1	1	-	-	-	-	2	-	-	-	1

Table 10: Types of research design for social skills

The **social skills** subgroup includes benefits of music education encompassed by this selection of codes:

> *collaboration, communication, conscientiousness, empathy, interpersonal connections, politeness, social skills* and *teamwork*

Within the large amount of research on social skills in UK research, it was noted as a key benefit for participants involved in projects organised by Sage, Gateshead in a report from 2005. One project leader of the *Singing Aloud* programme, for example, noted that

> if things aren't going well at home or school, then this - the music education engagement - , is one space in which they can feel secure, positive and grow their self-assurance (Holden and Jones, 2005).

Sometimes music education offers an alternative space for learners to develop their social skills where other environments might be more challenging.

In a Canadian piece on teaching gospel music, educator Karen Burke identifies the social skills gained by musicians learning this genre of music:

> They are, of necessity, extremely tuned into everyone else in the ensemble. It is this focus that helps to develop a strong and immediate sense of community amongst the participants. They need each other to create. (Burke, 2021: 16)

The benefit of music education on social skills reinforces a sense that music-making is reliant on, and enhanced by, collaboration with other people.

COGNITION

Cognition is one of the most widely researched and significant benefits of music education, with 46% of the items in this RER documenting the cognitive benefits of music education for children and young people. In first place across our global total, it is the benefit found in the largest number of papers internationally and is in joint first place with **agency** as a benefit, in the UK.

Cognition as a heading clearly encompasses a broad range of categories. In music education describing it simply as 'thinking and perceiving' does not do justice to the broad range of benefits described in the various papers which have been coded under this heading. In the ACD RER (2021) cognition is defined as being

> the mental processes involved in learning. Cognition is usually taken to include thinking, reflecting, knowing, understanding, reason, remembering, evaluating, assessing, judging and problem-solving. (Thomson and Maloy, 2021: 20)

Alongside this helpful definition, in music education we are aware of the importance of both knowledge and skills (q.v.), and so, although cognition may be taken to be those aspects of musical learning which, in essence, take place in the brain (although see also Cobb, 1999). Nonetheless, for the purposes of this RER we have tried to separate out those specifically mental aspects of benefits. We have also endeavoured to delineate those studies which show ***transfer of music education*** learning benefits to other domains. The upshot of this is that cognition itself is the category which comes in top place in terms of codings.

Music education has a long history of studies involving psychology (Rideout, 1982), and cognitive benefits have been considered for many years. This is an important area of benefit when considering the place and role of music education, particularly in school settings. Cognitive benefits of music education are so significant that they are worthy of investigation in ways in which are beyond the scope of discussion in this RER report.

The Corpus

As we have established, as a benefit of music education, ***cognition*** is widely recorded across the corpus. 43 of items from the USA included in the RER focused on the cognitive benefits of engaging with music education. There were 23 items from the UK, 10 items from Australia, 7 from Canada and 5 from Spain.

Type of study	Case-control study	State of the field analysis	Case studies and reports	Mixed methods	Think piece	Cohort study	Meta-analysis	Surveys	Interview-based study	Systematic review	(Auto) Ethnography	Govt. paper	Other	Cross-sectional survey	RCT	Action research	Experiment (lab based)
Global	25	25	19	9	9	8	7	7	4	4	3	3	3	2	2	1	1
UK	2	6	2	5	-	1	1	-	2	-	1	3	-	-	-	-	-

Table 11: Types of research design for cognition

The codes we encompassed under the benefit term **cognition** are as follows:

> *attention skills, auditory processing, brain function, brain plasticity, cognitive abilities, concentration skills, critical thinking, engagement w/learning, intellectual ability, linguistic ability, melody perception, memory, perception, pitch perception, rhythm perception, spatial awareness, spatial-temporal reasoning, speech ability, verbal ability* and *visuo-spatial reasoning*

Although research found improved abilities in a variety of areas of cognition, as described by the variety of coding for this benefit, *engagement with learning* was a benefit frequently recorded. This encompassed research, such as a three-year English study tracking arts learning and engagement that found increased participation in musical activities outside school by those with greater arts opportunities in school (Thomson and Hall, 2023). In a piece of participatory action research in Portugal, researchers found that an informal, collaborative and creative approach to music learning transformed pupils' connection and relationship with music education and helped them begin to demonstrate a 'deep engagement' with collaborative music-making (Veloso and Mota, 2021). Music education can extend the ability of learners to make music for longer periods and with greater focus.

Some researchers also observed a longevity of improved cognition that remained throughout a person's life, with musicians having more 'neural resilience' (Kraus and White-Schwoch, 2020). They explain that 'music training sets up children's brains to make them better learners by enhancing both sound processing in the brain and cognition' (ibid.). It is notable that the wide range of music education research in this area includes studies on participants over longer periods of time.

A study in our 'state of the field analysis' section reviews numerous research articles to understand how music education influences cognitive development and reading skills in children (Bugaj and Brenner, 2011). Surveying several studies, the researchers found that there was the largest amount of available evidence of the cognitive benefits of music education within early years. They also recommended that more long-term research on cognitive benefits be conducted within mainstream classroom music education.

HEALTH AND WELLBEING

32% of the total items included in this RER outline how music education benefits children and young people's ***Health and wellbeing***. This includes two subgroup categories of **physical development** and **wellbeing**.

Physical Development

The benefit subgroup of **physical development** relates to the impact of music education on the body. It acknowledges the role that music education can play on physical growth and opportunity to learn corporeal skills. Music education can offer activity via which children and young people can practice and refine their physical abilities.

The Corpus

13 pieces of research in our review looked at the benefit of music education on **physical development**. It is notable that there is only one study in this area within the research from the UK.

Type of study	Case-control study	State of the field analysis	Case studies and reports	Meta-analysis	RCT	Systematic review	Think piece
Global	5	3	1	1	1	1	1
UK	1	-	-	-	-	-	-

Table 12: Types of research design for physical development

The benefits of music education on **physical development** covers the codes referring to *gross motor skills* and *fine motor skills* with a separate code given for those studies considering the benefit of music education on *motor skills in writing*, as well as its impact on *physical development* and *physical health*. Studies on *fine motor skills* took the focus within this benefit subgroup.

Two studies found that instrumental playing for primary school aged children improved manual dexterity, fine finger motor skills and coordination (Hyde et al., 2009; Martins et al., 2020). However, a systematic critical review of research in English from 2010-16 which focused on 46 studies in total, found that limited research, that varied in design, meant that no clear conclusions could be drawn regarding benefits of music education in this area (Dumont et al., 2017). This might explain why we found few researchers investigating this particular benefit of music education within our review.

Wellbeing

Wellbeing, 'with reference to a person or community' is 'the state of being healthy, happy, or prosperous; physical, psychological, or moral welfare' (Oxford University Press, 2025). Wellbeing has an impact on an individual's physical and mental health. It encompasses both good health and feeling good in oneself.

In England, the Department for Education encourages the promotion and protection of health and wellbeing for pupils via principles for a whole school or college approach (Department for Education, 2021b). In recent years there has been an increased focus on improving wellbeing in education settings as documented by researchers such as Silke Schmid who state that we might 'regard music educators as facilitators of music-related wellbeing' (Schmid, 2024). Schmid's article is one of many music education discussions on the topic of wellbeing within the teaching and learning of music. Another key piece of research considering the capacity of classroom music-making as potentially healing, or harmful, is Elizabeth MacGregor's work on musical vulnerability, published since the conclusion of our literature search, and therefore beyond the scope of this review (MacGregor, 2024).

The Corpus

Over a quarter of the items in the corpus found that improvements to the **wellbeing** of children and young people is a benefit from taking part in music education. It is a benefit that is of particularly importance to UK researchers, with 41% of studies from

the UK in this RER including wellbeing as a benefit of music education. This is a significantly high figure, as the global figure is only 27% of research items that include wellbeing as a benefit overall.

Type of study	State of the field analysis	Surveys	Case studies and reports	Interview-based study	Case-control study	Mixed methods	Think piece	(Auto) ethnography	Cohort study	Govt. paper	Other	Systematic review
Global	14	14	13	7	5	5	5	3	3	3	3	3
UK	5	-	2	1	3	4	1	1	-	3	-	-

Table 13: Types of research design for wellbeing

Under the benefit theme of **wellbeing** we categorised the following codes:

> *anxiety decrease, dignity, emotional development, escapism, happiness, satisfaction, self-belief, self-esteem, self-value, sense of accomplishment, stress reduction* and *wellbeing*

The codes appearing equally frequently in our analysis were *wellbeing*, *self-esteem* and *emotional development*. A piece of research published by Youth Music found that music-making had a major impact on the wellbeing of young people (Youth Music and IPSOS Mori, 2019). Working with Ipsos MORI, online surveys were carried out with 1,000 young people aged 7–17 across England and accompanied by case studies of 14 participants involved in Youth Music projects. In their research they found that the power of music-making to improve feelings of wellbeing was 'overwhelmingly supported' in their findings, where 85% of young people said that 'music made them feel happy' (ibid.: 16). The researchers viewed this finding as an opportunity to 're-imagine the purpose of music and music education for social and wellbeing outcomes. And in doing so, make it more inclusive and impactful' (ibid.: 18). Wellbeing is a benefit that has been paid much attention by both practitioners and researchers of music education.

A South African study generated evidence that 'self-esteem, optimism, happiness and perseverance increased' for economically disadvantaged students taking part in instrumental music education (Devroop, 2012: 414). Internationally, wellbeing may be defined in a variety of ways, and may not be the term of choice, but globally, it is an important area of research for over a quarter of the items in our review.

MUSIC EDUCATION SUBJECT LEARNING

38% of the total items included in this RER detail how music education benefits children and young people in the area of ***Music education subject learning***, including the subgroup categories we have named **aesthetic learning**, **creativity** and **knowledge, skills, techniques and practices**. One might expect that research on music education documents the development of practical skills in music-making and appreciation of music by children and young people. In our rapid evidence review,

however, we found that some mention this to a greater extent than others and certain types of learning are researched more than others.

Aesthetic learning

The notion of **aesthetic learning** in music education is a problematic area. In the United States there have been disagreements about what David Elliott referred to as 'music education as aesthetic education' (Elliott and Silverman, 2015), a stance promoted by Bennett Reimer (1970). In the UK these discussions have had less force, possibly because of the very different practices of school music education here. However, the notion of aesthetic education, and the role music has to play in this have been considered, although it is worth bearing in mind Charles Plummeridge's observation:

> Many discussions on this issue become clouded because the term 'aesthetic education' is used in different ways and in different contexts. (1999: 115)

In this coding, the notion of musical enjoyment has also been included, and papers related to this aspect have been included accordingly.

Alongside these aspects, this area is also bound up with notions of hegemony and 'whose music' (Shepherd et al., 1977), but we have tried to disentangle these when thinking about what is coded here.

The Corpus

13% of the total reviewed items included **aesthetic learning** as a benefit of music education. The research from the UK had a higher percentage, with 20% of the research from the UK including this as a benefit of music education.

Type of study	Case studies and reports	Mixed methods	Surveys	Interview-based study	Case-control study	Action research	(Auto) ethnography	Govt. paper	Other	State of the field analysis	Think piece
Global	14	7	5	3	2	1	1	1	1	1	1
UK	2	4	1	-	-	-	1	1	-	1	-

Table 14: Types of research design for aesthetic learning

The benefits of music education categorised as **aesthetic learning** included research that found music education improved children and young people's *aesthetic experience of music*, *music appreciation*, and the code that appeared most frequently – *enjoyment of music*.

To explore this benefit, we will refer to several studies from the UK. One study exploring the impact of music education on learners' experience of music found that extra-curricular performance opportunities in school were consistently found to be enjoyable by all adolescents involved in the research (Pitts, 2008). In their article on singing in primary schools, Alexandra Lamont, Alison Daubney and Gary Spruce found that:

> every type of singing can be enjoyable and rewarding for all involved. The examples of good practice observed in the case studies have shown a diversity of ways of implementing the national strategy of singing in primary schools. In every case, the enthusiasm and motivation of one key individual in the school has been vital to the success of the initiative. (Lamont et al., 2012: 262)

Another UK study similarly found that teaching staff play an important role in maintaining pupils' aesthetic learning at secondary school level. Schools with good strategies in place to support pupils' transition from primary to secondary school, ensuring musical experiences for Year 7 children for example, assisted in maintaining young peoples' appreciation of music at secondary school (Kokotsaki, 2017). In England, GCSE and A-Level Music uptake is in decline (Whittaker and Fautley, 2021). With this in mind, the sustaining of pupils' enjoyment of music education at secondary level is an important benefit for music education researchers to consider.

CREATIVITY

Creativity is another problematic construct in music education. As Pamela Burnard observes:

> Musical creativity – broadly construed as the exemplary locus of diverse forms of practice – is one of the prominent yet notoriously contentious phenomena in the "field" of music education… the general situation is far from clear. From the perspective of students and teachers, the challenge of musical creativity can be attributed to it being an emerging field of theory and research, and one for which definitions are not only elusive but also contested and confused. (2012: 319)

More generally, commonly accepted definitions of creativity include that of the National Advisory Committee on Creative and Cultural Education (NACCCE) report in the UK, where it was defined as being:

> Imaginative activity fashioned so as to produce outcomes that are both original and of value. (1999: 30)

The notion of being both original *and* valuable is important here, as simply being novel is not enough. This was a point picked up in another series of definitions of creativity:

> Creativity: The capacity to imagine, conceive, express, or make something that was not there before.
>
> Creative thinking: A process through which knowledge, intuition and skills are applied to imagine, express or make something novel or individual in its contexts. Creative thinking is present in all areas of life. It may appear spontaneous, but it can be underpinned by perseverance, experimentation, critical thinking and collaboration.
>
> Teaching for creativity: Explicitly using pedagogies and practices that cultivate creativity in young people. (Durham Commission on Creativity and Education, 2019: 94)

This Durham definition helpfully separates out various sub-types of creativity, all of which have relevance to music education.

More recently, particularly following the work of Burnard (*inter alia* Randles and Burnard, 2023a; Haddon and Burnard, 2015), the notion of creativity has been pluralised; viewed from this stance "[l]earning in all its rhizomatic complexity requires plurality" (Randles and Burnard, 2023b: 4).

Music education has a range of creativities associated with it, and research in this RER coded under this heading reflects the broad range of types which are entailed.

The Corpus

Despite music education being widely regarded as a creative subject, with the Department of Education's most recent National Plan for Music Education stating that 'now is the time to unleash the creativity of our children and young people' (Department for Education, 2022), there are few studies looking specifically at creativity. This is evidenced by our RER findings, with only 9% of the reviewed items in our report describing creativity as a benefit of music education. Much music education is skills-based reproduction rather than focused on developing creativity. Creativity is also difficult to assess and therefore, it can be challenging to define how and to what extent it is impacted by music education.

Type of study	State of the field analysis	Mixed methods	Think piece	Interview-based study	(Auto) ethnography	Case studies and reports	Action research	Case-control study	Govt. paper	Surveys	Systematic review
Global	6	5	4	3	2	2	1	1	1	1	1
UK	3	1	-	-	-	-	-	-	1	-	-

Table 15: Types of research design for creativity

Our benefit subgroup named **creativity** includes the findings coded as *creativity* most frequently, but also *composing*, *imagination* and *improvisation skills*.

A piece of action research from Portugal found that children who were given the opportunity to collaboratively compose music in primary school 'nurtures a set of creative possibilities that would otherwise, not occur', also relaying the importance of improvisation and embodiment for children's composing (Veloso, 2017). Another study from Croatia found that primary children who participated in creative music making were more positive about their creative abilities (Mucić, 2024). Engaging in music education can increase creative opportunities and boost children's confidence in their creativity. A US researcher asked why there is not more inclusion of songwriting in music education practice or research, elevating the value of students' creative ideas, and in other domains (Dweck, 2024). Indeed, much music education research in this area is concentrated on advocating for more time to be spent on children and young people's creative practice within the teaching and learning of music.

KNOWLEDGE, SKILLS, TECHNIQUES AND PRACTICES

There has been a long-running debate in educational circles concerning the relative importance of knowledge and skills (Oates, 2018). In music education we have long known that both are needed in order for effective musical learning to take place. As Steven Berryman observed:

> The nature of musical learning and musical knowing interfaces between knowledge and skills in a very distinct way. When we use a musical skill, such as singing, we are drawing on knowledge of how to use our voices, which might include knowledge of how to manage our breath control or knowledge of how it feels to sing loudly and how to sing quietly... Particular knowledge is required to demonstrate musical skills, and, in turn, new knowledge will be created through the use of the skills. (2018)

Under this heading we have coded research that discusses both knowledge and skills, both jointly and severally. We know that to become skilful at an instrument takes many hours of deliberate practice, for example, and that this application is a key benefit of musical learning for being musical.

Also under this coding are research publications that discuss specific music education practices and pedagogies, including some which are considered as learning systems in their own right, which are included when the research data shows robust findings of benefits accruing.

The Corpus

Of all the benefits included in the ***Music education subject learning*** theme, described in this section of our report, **knowledge, skills, techniques and practices** is the subgroup with the highest number of studies. Nearly a quarter of our reviewed items included this as a benefit of music education, 23% overall. This was more common in UK research, with 33% of items, a higher number than we found overall, including musical knowledge, skills, technique and practices as a benefit of music education.

Type of study	Case studies and reports	Case-control study	Mixed methods	State of the field analysis	Think piece	Surveys	Cohort study	Interview-based study	Govt. paper	(Auto) ethnography	Other
Global	18	8	8	8	7	5	4	4	2	1	1
UK	4	-	3	2	-	2	1	2	2	-	-

Table 16: Types of research design for knowledge, skills, techniques and practices

Our coding for this benefit type includes

> *beat competence, instrumental skills, intonation, listening skills, musical knowledge, music literacy, music skills, performance skills, pitch production, rhythmic accuracy* and *singing ability*

The code appearing most frequently was the general description of *music skills*. Readers might note that this benefit subgroup does not include motor skills as such, which we included in the **physical development** subgroup within the ***Heath and wellbeing*** theme.

Studies in this part of the corpus explore the benefits of music education on the development of skills related specifically to music making. For example, one researcher conducting a state of the field analysis in 2006 found that music educators were assisting learners to acquire rhythmic skills via processes of 'maturation, acculturation or active learning' (Reifinger, 2006: 25). Another longitudinal case-control study found that music education assisted children and young people to develop their auditory skills (Habibi et al., 2018). Music education is found to benefit a wide variety of **knowledge, skills, techniques and practices** required as essential components within the practicalities of making music.

Several pieces of research included in this category were examining the impact of particular music education approaches. This is included studies on music education programmes adopting a particular approach or pedagogy. For example, our review found research looking at the benefits of music education programmes that were ICT-based (Hernández-Bravo et al., 2016); or focused on particular schemes such as *Musical Futures* (Hallam et al., 2017; Papazachariou-Christoforou 2023; Evans et al., 2015), *Sing Up!* (Welch et al., 2011) and *JeKI* (Krupp-Schleußner and Lehmann-Wermser, 2018). There are several pieces of research on the benefit of music education informed by *El Sistema* (Hopkins, 2017; Ilari et al., 2016; Bolden et al., 2021; Simpson Steele 2017). Although research in our corpus found that the *El Sistema* approach with its intensive music training improved students' listening skills, pitch perception and production, it is important to note that there is also critical and respected research that challenges the institution and its practices (Baker, 2014).

PATHWAYS

4% of the total items included in this RER mention how music education services children and young people within the benefit theme of ***Pathways***. We use the term as featured in Thomson and Maloy's ACD RER (2021) to refer to the future possibilities that involvement in music education might offer children and young people. This might be vocational – types of employment made possible by an involvement in music education – or focused on pathways to continuing engagement with music beyond a school setting or particular music programme.

The Corpus

Our RER found a small amount of research considering the future prospects provided by engagement in music education. As this RER shows, benefits of music education are not limited solely to preparation for employment routes.

Type of study	Case studies and reports	Surveys	Case-control study	Interview-based study	Mixed methods
Global	4	4	1	1	1
UK	3	-	-	-	1

Table 17: Types of research design for pathways

The research in this subgroup includes the literature coded as being related to *career aspirations* or *future music-making*. The latter, children's wish to continue to making-music, was the most important aspect of this benefit subgroup. This includes research that found parents in Hong Kong felt music education increased the possibility of a 'lifelong engagement in music' for their children (Choi et al., 2005). This subgroup also includes reports where children showed an aspiration to continue making music beyond the scope of a project or study. For example, a child in one case study who had asked about learning the trombone was being supported to do so, a documented benefit of her involvement in an English primary school music project that the report was evaluating (Ward et al., 2023). The activation of pathways to future music-making is often linked to previous positive experiences of music education for research participants, who feel encouraged to return to music-making later in their lives.

TRANSFER OF MUSIC EDUCATION LEARNING

18% of the total items included in this RER make reference to the benefit of music education on the transfer of musical learning to other subject areas.

This is a complex area of codings and required some considerable unpicking. There is a school of thought which argues that an overt focus on extrinsic benefits of music education ought instead to focus on the intrinsic benefits which it can offer:

> Why would something so widely regarded as a valuable component of human life, particularly among youngsters of school age, need such intense, ongoing efforts to plead its cause as being a worthy school subject? (Reimer, 2005: 139)

However, this is not to decry the many studies which find that transferable benefits do accrue from music education into other areas of life and learning, and this coding endeavours to encompass these.

This section of the report considers research that seeks evidence for how the skills and knowledge gained in music education are applied to different contexts and learning within other school subjects. Music is intrinsically valuable, but this RER shows that the transferability of skills gained in music education to other areas remains a concern for researchers in this field.

The Corpus

Type of study	State of the field analysis	Case-control study	Meta-analysis	Cross-sectional survey	Cohort study	RCT	Surveys	Mixed methods	Systematic review	Think piece	Case studies and reports	Experiment (lab based)	Interview-based study
Global	12	8	6	5	4	4	4	2	2	2	1	1	1
UK	4	-	-	-	2	1	-	-	-	-	-	-	1

Table 18: Types of research design for transfer of music education learning

The codes within the benefit theme ***Transfer of music education learning*** included the following:

> *English skills, literacy, maths appreciation, maths skills, numeracy, reading skills, science skills, transferable skills* and *writing skills*

In this instance *writing skills* refers to use of language as opposed to the motor skills and manual dexterity required for writing, allocated to the benefit subgroup **physical development**. Of these codes, *reading skills* and *maths skills* appeared the most frequently in the corpus.

Literature included in this part of the review looks at the transferability of skills gained in music education to other areas. In addition, some of the literature included in our review includes the application of music education to the teaching of other subjects. For example, one study from the USA found that students who experienced 'music-integrated mathematics lessons' showed significant improvements in their overall maths ability than a control group (An et al., 2014). In an online survey of 180 South Australian Government primary school teachers, Anita Collins found that, across a wide selection of benefits, teachers agreed music education supported literacy and numeracy skills with '97% agreeing that music is important to students' educational experience' overall (2024). The impact of music education beyond music lessons remains a concern for researchers internationally.

CONCLUSION

This RER has shown the many and disparate benefits of music education with a focus on what is happening in England. It has shown that music education has both intrinsic and extrinsic benefits. As befits a RER, the authors have not commented on any of the aspects concerned but have presented, using the appropriate methodology, to show what has been taking place in research in the field.

APPENDIX: SOURCE JOURNALS

American Educational Research Journal

Annals of the New York Academy of Sciences

Arts Education Policy Review

Asian Journal of Research in Education and Social Sciences

Australian Journal of Music Education

BMC Complementary Medicine and Therapies

British Educational Research Journal

British Journal of Music Education

Bulletin of the Council for Research in Music Education

Canadian Journal of Education

Cerebral Cortex

Childhood Education

Croatian Journal of Education

Cypriot Journal of Educational Sciences

Development Cognitive Neuroscience

Development Science

Early Childhood Research Quarterly

Economics of Education Review

Education Sciences

Educational Psychology

Educational Research Review

Forum

Frontiers in Neuroscience

Frontiers in Psychology

International Journal for Mathematics Teaching and Learning

International Journal of Community Music

International Journal of Education and the Arts

International Journal of Educational Development

International Journal of Educational Research

International Journal of Music Education

Journal for Learning through the Arts

Journal of Adolescent Research

Journal of Cultural Economics

Journal of Education for Teaching

Journal of Educational Psychology

Journal of Music Research Online

Journal of Neuroscience

Journal of Research in Music Education

London Review of Education

Memory & Cognition

Mind Brain and Education

Music Education Research

Music Educators Journal

Música Hodie

Musicae Scientiae

Muzikoloski Zbornik

New Horizons in Education

Pediatric Annals

PloS One

Prevention Science

Psychological Studies

Psychology of Aesthetics, Creativity, and the Arts

Psychology of Music

Psychomusicology: Music, Mind and Brain

Research and Advances in Education

Research in Education

Research Studies in Music Education

Review of Education

Reviews in the Neurosciences

Sage Open

Scientific Reports

Social Science & Medicine

Social Science Quarterly

Stress and Health

The Canadian Music Educator

The International Undergraduate Journal for Service-Learning, Leadership, and Social Change

The Journal of Neuroscience

Transactions on Social Science, Education and Humanities Research

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