engage earn achieve

The impact of museum visits on the attainment of secondary pupils in the East of England 2006-2007









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This publication is based on the findings of a research study carried out for Renaissance East of England and Museums, Libraries and Archives (MLA) East of England

The full research report can be downloaded from: http://www.le.ac.uk/museumstudies/research/rcmg.html

The research was carried out by the Research Centre for Museums and Galleries (RCMG) at the University of Leicester

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This publication is also available in large print and computer disc formats on request from RCMG

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Conclusions

Renaissance East of England and Museums, Libraries and Archives Council East of England (MLA East of England) commissioned this research from the Research Centre for Museums and Galleries (RCMG) in the Department of Museum Studies at the University of Leicester to investigate the impact that museums in the East of England region have on the attainment of secondary age pupils completing an assessed piece of work as a result of their museum visit. Funding for the project has come from Renaissance, a £150 million programme to transform England's regional museums.

This exploratory research draws on the experiences of nine schools visiting five museums and one archive in the East of England region. Assessment marks were provided for 762 secondary pupils and four schools took part in in-depth case studies. The evidence obtained has helped us to understand more about the impact that museums can have on the attainment of secondary age pupils and raises many new questions for future investigation.



Museums can have a positive impact on learning and attainment

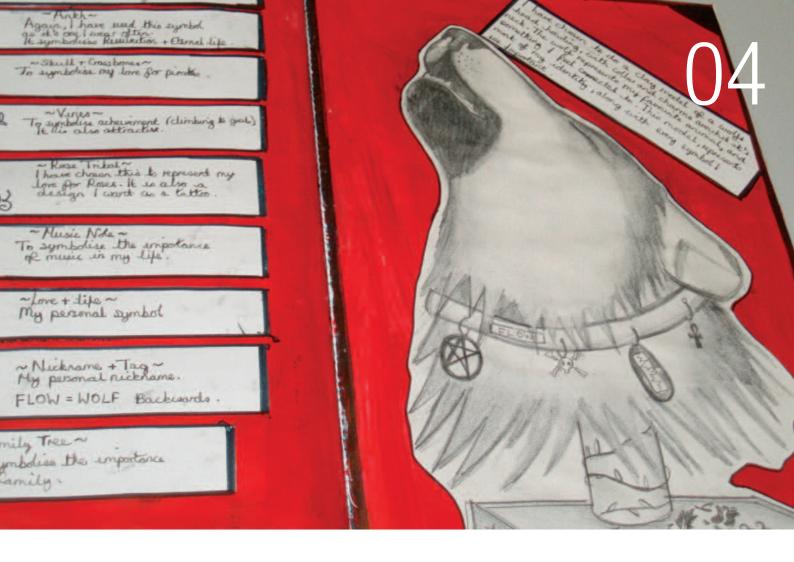
- 60% of pupils in this study achieved a higher mark for their assessed piece of work after a museum (or archive) visit when compared to previous assignment marks
- Pupils (and teachers) are positive about their learning in museums
- Museums support the needs of pupils with different learning styles
- Museums provide 'serious fun' the experience is fun but there is serious learning happening
- Most pupils are motivated to do well in their assessed work
- Pupils feel valued and respected
- The museum/gallery/archive provides inspirational source material

Museums motivate pupils across a range of abilities

- The majority of pupils of all abilities increased their marks for their museum-based assignment compared to previous assignments: 51% of 'higher ability' pupils, 55% of 'average ability' pupils and 71% of 'lower ability' pupils
- Teachers and museum educators did not expect that so many 'lower ability' pupils would benefit from the museum experience
- The attitudes of teachers can have a positive or negative impact on the attainment of pupils

Museums engage teenage boys as well as teenage girls

- 58% of teenage boys saw an increase in their marks for the museum-based assignment compared to 61% of girls
- Both teenage boys and girls in the study were enthusiastic about their museum visits and confident about their learning



Museums can help schools tackle difficult areas of the curriculum and assessment

- Museums have the resources and expert staff to support schools with areas of the curriculum that they might find difficult to cover in the classroom
- Pupils can access 'real' objects and make meaningful connections with their subject; according to their teachers these positive experiences directly influence the higher standards of work produced

Museums provide different models of engagement for schools

- There is no single best practice model although there are key characteristics that can be identified which appear to ensure good learning experiences for secondary pupils at museums
- Museums can support independent learning by pupils but this support needs to be well structured
- Skilful facilitation of the school visit by museum educators is critical to success
- Museums can create learning packages for KS3, which can be repeated, tested and therefore refined over time
- · Meticulous planning between museums and schools to develop sessions is crucial to success

Museums are amazing, imaginative resources for schools

- For pupils, museums offer rich, immersive learning experiences which are enjoyable and memorable
- They can inspire and motivate young people, offering experiences that are not always possible, or indeed desirable, in the school context
- They can be used in creative and flexible ways to support different areas of the curriculum
- They can be used by schools seeking either single sessions or multiple contact sessions for their pupils, and they can accommodate groups ranging in size from whole year groups to smaller groups of ten pupils or fewer

Conclusions: Museums

- Museums can have an impact on the attainment of secondary pupils
- To increase museum delivery for the secondary curriculum museums could, perhaps, be more proactive in making creative connections between their resources and what schools need
- Museums can respond to the new secondary curriculum
- Museums can embrace assessment as a tool for learning understanding the nature of assessment, how it is integral to learning and informed teaching, and how museums can best support this, is crucial
- Investing time and resources in developing programmes for secondary schools is essential
- Museums need to be proactive in demonstrating the important contribution that they can make to Children's Workforce Development, one which is not currently acknowledged²

Conclusions: Secondary schools

- Museums can have an impact on the attainment of secondary pupils across a range of subjects
- Museums can be used flexibly by secondary schools
- Museums offer different and value added experiences for schools
- Museums can support the new secondary curriculum and are well placed to support recommended approaches to teaching and learning, providing examples of quality, innovative and learner-centred approaches which can appeal to many learning styles
- Museums can encapsulate teaching at its best for teachers, exposure to museum teaching and learning practices presents an opportunity for them to refresh their own practice

background

This study has emerged from the experience of four large-scale national evaluation research programmes undertaken by RCMG into the impact and outcomes of learning in museums for school-aged children and young people, funded through programmes initiated by the Museums, Libraries and Archives Council (MLA) and the Department for Culture, Media and Sport (DCMS). These studies have generated a considerable amount of robust quantitative and qualitative data demonstrating the significant impact that museums can have on the learning outcomes of children and young people, of both primary and secondary age.

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In particular, it has built on evidence from the Renaissance-funded research study *What did you learn at the museum today? Second Study.* A case study with Gressenhall Farm and Workhouse Norfolk suggested that a museum visit could have a positive impact on the attainment of secondary age pupils when an assessed piece of work was completed as a result of the visit. A close partnership between the museum and Downham Market High School has developed a session for the whole of Year 9 to enable pupils to gather information for an assignment entitled '*Was the workhouse so bad?*', part of a four week focus on the topic of a nineteenth-century workhouse and the Poor Law in the Key Stage 3 History curriculum.³

Whilst this evidence was robust in terms of methodology, it was numerically a tiny sample. To obtain a broader picture of the potential impact of museum visits on secondary pupils' attainment it was important to get evidence on a much larger scale. This research is a step in that direction, increasing the evidence base from 6 pupils from one school visiting one museum to evidence from 762 pupils from nine schools visiting five museums and one archive across the East of England.

What this research does:

- It gives a 'snapshot' of the impact of a museum visit on pupil attainment in the East of England region based on an assessed piece of work completed after a museum visit
- Evidence of attainment is based upon the judgements made by teachers about their pupils' progression in the subject whether they went up, stayed the same or went down in their marks for their museum-based assignment compared to
 three previous assignment marks
- It investigates, through quantitative and qualitative research, the attitudes of pupils and teachers to museum visits and the learning that takes place there
- It recognises the complexity of attainment and it does not attempt to look at the details of assessment

What this research is NOT setting out to do:

- It is not a comprehensive study of attainment in secondary education across the East of England region
- It does not seek to engage with the nuances of assessment
- It has not sought to make comparisons with the experiences of pupils completing an assessed piece of work without a
 museum visit
- No comparisons have been made across subjects, between schools or between museums it is not our intention to judge whether there are 'good' or 'bad' models of using museums for assessed pieces of work

research methods

The research study used mixed methods, both quantitative and qualitative, in order to gain both a broad overview and an in-depth understanding through case studies of the potential impact of a museum visit on the attainment of secondary age pupils through an assessed piece of work following the visit. Quantitative and qualitative research methods offer different kinds of evidence and here they are used to complement each other, a combination which is increasingly familiar in social science research.

Collecting evidence of attainment

Following the model used in *What did you learn at the museum today? Second Study*, a condition of the research study was that the selected museums would be working with secondary schools whose participation in curriculum-focused sessions in the museum would lead to a formally assessed assignment or piece of coursework. With their inclusion in the project, museums were committed to being proactive research participants, supporting the collection of data from schools.

Five museums and one archive were involved in the study.



Fig. 1: The participating museums, galleries and archives

Peterborough Museum and Art Gallery archaeology, geology, social

history, natural history and art

The Fitzwilliam Museum,

Nine schools provided marks for 762 pupils for the museum-related assignment and up to three previous assignment marks with which the museum-based assignment could be compared. Most of the schools analysed the marks they sent and the teachers provided the evidence of pupil progression; whether they thought the pupil went up, stayed the same, or went down in their marks for their museum-based assignment.

A further 451 pupils (and 11 teachers) completed questionnaires at the end of their museum visit about their learning experiences.



Fig. 2: The nine schools participating in the study

Four of the schools were selected to take part in case studies. These were Fakenham High School, Rosemary Musker High School, Manor Community College and Downham Market High School. The case studies enabled further investigation of the museum experiences that led to the attitudes of the participants and impact on attainment. This was facilitated through the collection of qualitative data in the form of observations of visits by schools to museums and interviews with teachers, pupils and museum staff.

Essential to the research study was the support of the museums and the schools involved. Originally four case studies were arranged with schools visiting four different museums and covering a variety of areas across the curriculum. The unexpected withdrawal at very short notice of a school studying a science-based session necessitated its replacement. Gressenhall Farm and Workhouse was used for two case studies and is therefore over-represented in this study.

This is a small research study which gives a 'snapshot' of the impact of a museum visit on pupil attainment in the East of England region based on an assessed piece of work completed after the museum visit. As a result of the self-selection of museums and schools involved in the study it reflects secondary school usage of museums in the subjects of History, Geography, Art and English.

In the National Curriculum, attainment is measured through assessment of pupils, with formal, standard testing taking place at various stages of a pupil's school career and continuous assessment in the classroom by teachers which may be measured in a number of different ways. This research study focuses on the impact of attainment of secondary age pupils in an assessed piece of work as the result of a museum visit, where the assignment is set by the school.

Attainment is a complex subject and part of the wider learning process which may be influenced by:

- Teachers' aspirations and experience
- School philosophy
- The subject, each of which has its own set of attainment targets⁴
- Quality of facilitation
- Relationship between the school and the museum
- The timing of the visit to the museum

This study, therefore, only attempts to measure at a basic level the impact that a museum visit has on the attainment of pupils. Pupil attainment was measured through the teachers' assessments and their judgements about the nature of pupil progression; whether pupils, in their piece of assessed work, went up, stayed the same, or went down in their performance. The museums have had no involvement in the judgement of pupil progression or any influence over it, acting solely as source material and stimulus for the assignment completed by pupils.

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A 'snapshot' of pupil achievement

Attainment has a twofold purpose; recording what has been achieved by pupils (assessment of learning) and as a tool to promote learning (assessment for learning). 'Assessment for learning' focuses on the needs of the learner and helps them to identify the next steps they need to take in order to make progress in their learning. Where assessment is used effectively, learners understand the aim of their learning and how they can achieve that aim. For pupils, it can raise standards of attainment and behaviour, improve attitudes and responses and promote self-esteem through a shared understanding of the learning process.

On the other hand, pupils who achieve less well than their peers may become demotivated and demoralised. It is recognised that there is a persistent core of lower achieving pupils, although strategies intended to help the bottom 10-20% of pupils have met with mixed success. 10



Attainment and social exclusion

Lower achievement is a concern for society as well as for individual pupils. The importance placed on education in twenty-first century society means that formal qualifications provide young people with more than academic success, namely access to a range of opportunities. Without formal qualifications young people may struggle to fulfil their potential. Low educational attainment has been linked to poorer reported general health, depression and disengagement with civic and community life. 11 Ensuring that pupils are given fair methods of assessment and are involved in their learning becomes far more crucial than mere academic success because of the impact it can have on their future outside school.

Motivating pupils to want to achieve

If pupils are to do well they need to be motivated to do their best. The new secondary curriculum recognises that pupils need to be motivated and engaged learners; that assessment should support teaching and learning, and provide more opportunities for focused support and challenge for pupils where needed. There is an increased emphasis on personalised learning, making connections across the curriculum and introducing dynamic, innovative teaching and learning methods. If museums really are to meet the needs of the secondary school sector they not only need to understand how museum resources and experiences can be relevant to the curriculum, but how integral assessment is to the curriculum and to the future success of young people.

⁵ Weeden, P., Winter, J. and Broadfoot, P., Assessment: What's in it for Schools? RoutledgeFalmer, London, 2002

⁶ CEA@Islington Quality Statement on assessment practice (secondary), July 2003, Issue 2, http://www.qca.org.uk/libraryAssets/media/assessment_practice_secondary.pdf [accessed 19 09 2007]

⁷ The ten principles: Assessment for learning, http://www.qca.org.uk/qca_4336.aspx [accessed 19 09 2007]

⁸ CEA@Islington Quality Statement on assessment practice (secondary), 2003

⁹ Bradshaw, J., Kemp P., Baldwin, S. and Rowe, A., The Drivers of Social Exclusion: A review of the literature for the Social Exclusion Unit in the Breaking the Cycle Series, Social Exclusion Unit, Sept 2004

¹⁰ See, for instance, Cassen, R. and Kingdon, G., Tackling Low Educational Achievement, Joseph Rowntree Foundation, York, 2007

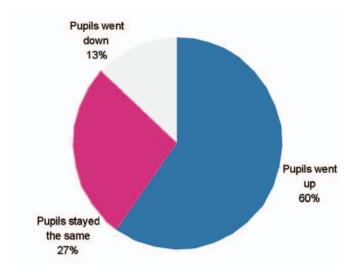
¹¹ Scottish Museum Council, Museums and Social Justice: how museums and galleries can work for their whole communities, Edinburgh, December 2000

¹² QCA, Reviewing the secondary national curriculum, January 2007

museums can have a positive impact on attainment

The evidence from this study suggests that museums can have a positive impact on pupil attainment when an assessed piece of work is completed in tandem with a visit.

From an analysis of assignment marks for 762 pupils, based on the teachers' judgement of their progression, 60% of pupils achieved a higher mark for their museumbased assignment, 27% of pupils stayed the same and 13% of pupils went down in their marks when compared to up to three previous assignments.



How can we account for this positive impact on pupil attainment as measured by their teachers? From looking at the quantitative and qualitative data collected and analysed as part of the study we can suggest that the following museum-related factors are important in enabling pupils to achieve higher marks in their assignments:

- Pupils (and teachers) are positive about their learning in the museum
- Museums support the needs of pupils with different learning styles
- Museums provide 'serious fun'
- Most pupils are motivated to do well in their assessed work
- Some pupils become emotionally engaged in their work
- Pupils feel valued and respected
- The museum/gallery/archive provides inspirational source material
- The museum visit is an immersive experience

Fig. 3: Assessment marks. Breakdown by whether pupils went up, stayed the same or fell in their museum-related assignment marks

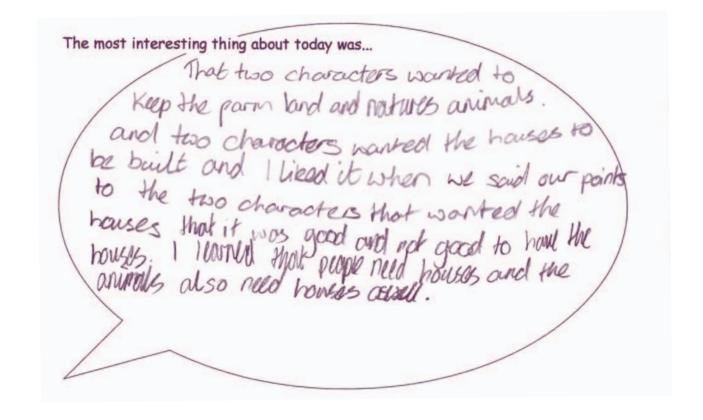
Pupils (and teachers) are positive about their learning in the museum

Judging by the questionnaires completed by pupils after their museum visit, pupils were enthusiastic about the museum visit and confident about their learning.

Table 1: Form B, KS3 and above. Breakdown of pupils' responses¹³

KS3 and above pupils	Yes	No	Don't know
I enjoyed today's visit	91%	2%	6%
I discovered some interesting things from the visit today	91%	4%	5%
A visit to a museum / gallery makes school work more inspiring	78%	10%	12%
The visit has given me a better understanding of the subject	85%	6%	9%
A museum visit is a good chance to pick up new skills	70%	9%	21%
The museum is a good place to learn in a different way to school	90%	4%	6%
I could make sense of most of the things we saw and did at the museum	84%	5%	10%
I would come again	63%	9%	28%
I've left the museum more interested in the subject than when I came	71%	9%	20%

Q.1,3,4,6&9, N=449; Q.2,5,7&8, N=450 (missing excluded)



Museums support the needs of pupils with different learning styles

Museums support the needs of pupils with a variety of learning styles and strategies, including those pupils who might otherwise struggle in the more 'academic' school environment. This in turn helps pupils to attain higher marks as the museum activity enables them to approach the subject in new ways. Ninety per cent (90%) of pupils completing a questionnaire after their visit agreed that the museum was a good place to learn in a different way to school.

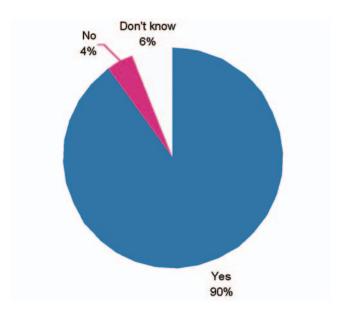




Fig. 4: Form B KS3 and above.

Responses to 'The museum is a good place to learn in a different way to school'

N = 449

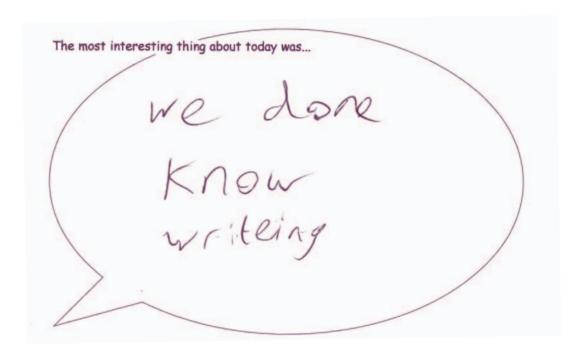
Barry¹⁴ from Downham Market High School achieved a level 5/6 for his assignment on 'Was the workhouse so bad?' He thought the visit helped with writing the assignment because it was a more immediate and memorable experience for him than reading about it from a book:

"...cos it's different instead of reading out of books. You just forget it if you read out of books, but if you go to the trip you soak it all in, you never forget all about it."

He was very clear that the reason he did so well on his essay was because of the experience of the museum visit:

'I think the trip actually helped me quite a lot. If there was trips on every essay I think I'd do quite well.'

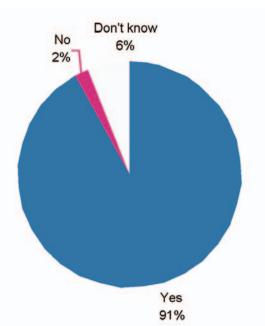
In his evaluation sheet Alec from Fakenham High School succinctly summed up the reason he enjoyed the visit to Gressenhall:



Teachers too were keen to take advantage of the possibilities of the museum environment for facilitating different styles of learning. Although he appreciated the need to focus pupils on their task, an Art teacher from Rosemary Musker High School talked about how the point of a visit for him was to give pupils a different learning experience to that of school:

'There's a studio in the [Sainsbury Centre] so instead of some tired old worksheet - I don't like worksheets, I don't like turning museums into another school-based... it's a bit like English Literature when they ruin a good book by making you answer fifty questions. I want them to go to galleries, and be consumers of gallery visits and enjoy."

Museums provide 'serious fun'



The museum visits pupils participated in demonstrate that learning experiences can be highly enjoyable. Of the pupils who completed a questionnaire immediately after their museum visit, an incredible 92% said that they had enjoyed themselves.

Many pupils talked about the fun that they had during the visit, but they also recognised that there was a serious purpose behind this fun. The fun that pupils experience helps to make learning more palatable; they are more motivated to learn as this typical comment from a pupil suggests:

'It's fun and you're learning at the same time... because you can learn more stuff and it's like really fun what you learn, not just like boring written work and stuff. You can like go and see all the different places and stuff."

Fig. 5: Form B KS3 and above. Responses to 'I enjoyed today's visit'

Most pupils are motivated to do well in their assessed work

Motivation is the key to achievement in both formal and informal learning contexts. The evidence from this study suggests that museums offer pupils new ways of accessing and engaging with learning familiar subjects. A very high percentage of pupils (85%) agreed that the museum visit had given them a better understanding of the subject, and 71% of pupils said that they had left the museum more interested in the subject than when they came.

This may have been because the museum content, although pitched at pupils of various abilities, was accessible for the majority of pupils. An overwhelming 85% of pupils agreed that they could make sense of most of the things that they saw and did at the museum.

Because pupils enjoyed the museum session and understood it, they believed that they would do better in their assessment following the museum visit. Back in the classroom pupils were keen to demonstrate their new understanding to their teachers. Following a visit to the Fitzwilliam Museum, the English teacher from Manor Community College noticed that there was a very positive impact on pupil behaviour and motivation in his class. As well as being keener to write, and writing more, pupils who previously lacked confidence in their writing ability showed more confidence.

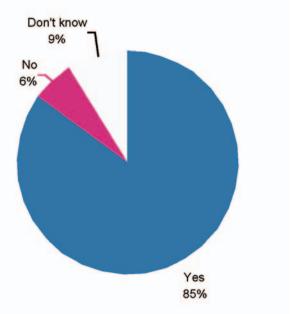


Fig. 6: Form B KS3 and above. Responses to 'The visit has given me a better understanding of the subject'

N = 449

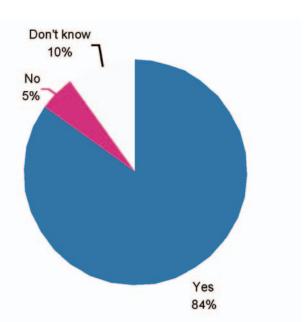


Fig. 7: Form B KS3 and above.

Responses to 'I could make sense of most of the things we saw and did at the museum'

N=450



Some pupils become emotionally engaged in their work

Museums can motivate pupils to engage emotionally with subjects that they might not otherwise be interested in. At Gressenhall Farm and Workhouse, pupils interacted with actors in role as former inhabitants of the workhouse. The intention was to encourage pupils to understand the past through stimulating their emotions and provoking strong reactions. They were exposed to different nineteenth century perspectives on subjects that included the treatment of unmarried mothers, the separation of families, the provision of education to paupers and the disrespect shown to them when they died. This helped pupils to make up their own minds - 'Was the workhouse so bad?'

The experience of the 'inmates' prompted one pupil, Mia, to comment that she felt she owed it to them to do well on her essay, because they were real people and it would be written in their 'memory':

'When you're writing your essay, if we hadn't gone to Gressenhall I think it would not have been as interesting. Cos we went to Gressenhall it was like it's actually happened so we can really write about it because we, like I think we kind of owe it to them people that put, like worked really hard in them workhouses.'



Human Frailty by Salvator Rosa, with kind permission of the Fitzwilliam Museum, Cambridge

In a very different session, pupils from Manor Community College were encouraged at the Fitzwilliam Museum to use their emotions in their responses to 'Human Frailty' a painting by Salvator Rosa. This painting dealt with equally difficult subjects including death, illness and loss. The pupils appreciated the opportunity to think about feelings in relation to the painting, as one remarked later when asked what they had enjoyed:

'...looking at the picture, we could express our feelings, like writing what we think of it.'

Pupils were able to think more deeply in both of these examples because the subjects they were exposed to provoked strong emotions and invited a strong response. However, the emotions provoked were then being used in a subtle way to encourage learning; the young people were engaged in the subject, they took an interest and felt a connection to the subject which then motivated them to complete their assignment.

Pupils feel valued and respected

Museum learning can mean independent learning; young people taking control of their own learning and being encouraged to find out for themselves. This could be seen in the experiences of pupils from Rosemary Musker

High School at the Sainsbury Centre for Visual Arts who were able to work independently on a piece of artwork inspired by what they had seen in the collections. They were given the freedom to develop their own art works using whatever inspired them. Pupils valued highly the freedom that they had been given as their responses show:

'Using all the different materials that I haven't had the chance to before and being completely in control of what I was doing on my art.'

'Being able to do whatever piece of art work we wanted based on our symbol. When I saw the Bucket man I was surprised.'

The museum/gallery/archive provides inspirational source material

For schools in the East of England using museums for an assessed piece of work, museums provided a multitude of inspirational resource materials for both pupils and teachers. This ranged from the site itself, such as Gressenhall Farm and Workhouse with its atmospheric buildings and extensive grounds, to the collections and how these could be used to stimulate learning for pupils of all abilities.

There was evidence from the interviews with pupils and teachers that museum visits had awoken the curiosity of pupils, challenging what they think and encouraging them to ask questions. One pupil from Manor Community College who liked learning about history was amazed that people in the past had created the paintings that he saw at the Fitzwilliam Museum:

'Like it was so long ago. It's like how did they get that when they were made like several years ago?'

Another pupil from the same class was keen to point out that the visit had helped him to see more in a painting:

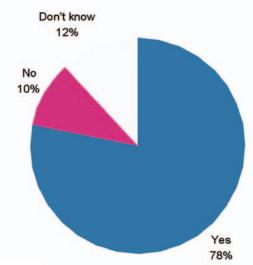
'It helps you find more in a picture - more than if you look at a picture and think that's it - but if you look at a picture more carefully you see more.'

Working with the paintings had given these pupils greater vocabulary and more confidence in their writing, as well as giving them more to write about.

These experiences may have been shared by others. The majority of pupils (78%) from all participating schools who completed a post-visit questionnaire agreed that the visit to the museum or gallery had made their school work more inspiring.

The museum visit is an immersive experience

Feedback from teachers and pupils indicated that the museum session was 'more than just a worksheet', instead it was an experience in which pupils could become absorbed and through which they underwent a range of activities that supported their learning and, consequently, their attainment. Furthermore, museums selected for use in this study were multi-sensory environments, utilising objects, buildings, sites and materials, and employing specialised individuals, for instance actors, artists and learning officers. These elements all combined to create rich and immersive learning experiences for pupils.



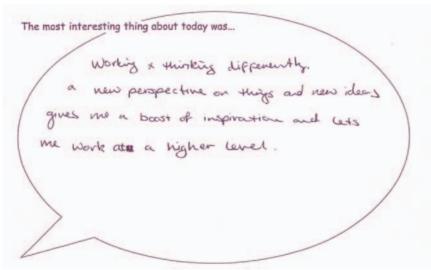


Fig. 8: Form B KS3 and above. Responses to 'A visit to a museum/gallery makes school work more inspiring'

N = 449



'Was the workhouse so bad?' Museums providing rich, immersive sites for learning Downham Market High School and Gressenhall Farm and Workhouse

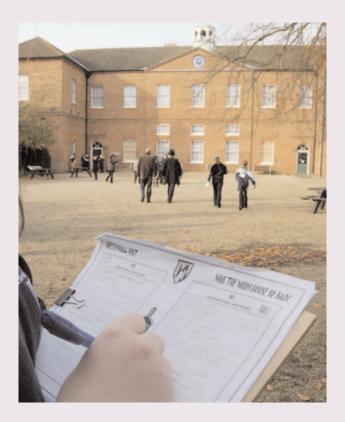
For their History topic on the nineteenth century workhouse and the Poor Law, Downham Market High School visited Gressenhall Farm and Workhouse to complete an assignment entitled 'Was the workhouse so bad?' Housed in a former nineteenth century workhouse, the museum uses 'Theatre in Education' facilitators who, through interaction and debate, expose the pupils to nineteenth century perspectives about the workhouse. Over the day pupils tour the site and interact with four characters who present the case for and against the workhouse: the workhouse master, the workhouse school teacher, a 'jacket woman' (mother of an illegitimate child) and a tramp.

Gressenhall Farm and Workhouse is an example of a museum offering an immersive and emotionally engaging learning session for schools, enabling young people to experience the 'past' through interaction with the 'Theatre in Education' facilitators. However, for Downham Market High School the visit offers far more and encompasses elements of citizenship and life skills, as well as enabling young people to access culture they might not otherwise be able to access. This multi-use approach is supported by the school's ethos of desiring pupils to participate in an enriched curriculum which includes them taking part in purposeful and educative field trips which are memorable and so facilitate learning.

The nineteenth century workhouse building itself is a crucial part of the visit. Pupils approach the workhouse as the inmates once would have done through the main gates, which for some immediately creates an atmosphere:

"...it was big and it looked like a really like dark and scary place to work. I wouldn't have liked to have worked there."

The use of characters in role provides an imaginative way of engaging pupils in a subject - the workhouse and the Poor Law - which seems very remote from the lives of young people today. Through interaction between themselves and the students, the actors convey the complex issues of living in an institution that provided food and shelter and good schooling but which separated families, regimented lives, restricted freedoms and stigmatised certain sections of the population such as unmarried mothers. Pupils experience first hand some of the aspects of the lives of inmates, being shown the punishment area and participating in a Victorian lesson run by the workhouse schoolmaster. They experience 'the past' in a space where former workhouse inmates and employees both lived and died.



Pupils are not asked to complete a worksheet during the day; instead they have one piece of paper entitled 'Was the workhouse so bad?' on which they can note down the good and bad points of the workhouse.

Pupils valued the real, concrete experiences to which they were exposed. For Mia, interacting with the characters gave her the sense that she was talking to people who knew about the past:

'If we were in lesson, all the evidence that you've got is from books, but seeing as they got actors in who have like, know about all that had happened, you can actually talk to them so you're not, you're not talking to a book, you are talking to someone who knows what happened in that time probably.'

Although some of them found it hard at first, pupils valued the opportunity they were given to question adults and to debate with them, even to distrust or disagree with what they were saying. Barry enthusiastically described the discussions he had with the workhouse master. He had disagreed with the master's attitude towards the unmarried 'jacket women' and he had felt quite passionately about it:

'Yeah, Mr Scraggs... I was arguing with him about how they were treated and he said they were treated perfectly alright... they survived and everything.'

The success of the visit to Gressenhall Farm and Workhouse can be attributed to various factors including meticulous planning and organisation by the learning officer, high quality facilitators and a good relationship between the school and the museum. The atmosphere of the day and the immersive experience with 'real' buildings and characters in role were significant factors in encouraging pupils to engage emotionally with the situations and ideas they encountered during the day and this in turn interested them and motivated them to work hard to complete their assignments. As a result of their museum visit, 69% of pupils from Downham Market High School experienced an increase in their assignment marks, 20% achieved a similar result to previous assignments and only 11% of pupils experienced a fall in their marks.

museums motivate and engage pupils across a range of abilities

Comparing the levels given to pupils by teachers in their assessed work with the expected levels of ability for pupils as standardized in the National Curriculum, it was possible to make basic comparisons of pupil progression based on the following categories of ability:

- 'Lower ability' (where the levels awarded are lower than expected for that age group)
- 'Average ability' (where pupils are meeting expected levels for that age group)
- 'Higher ability' (where pupils are exceeding levels expected for that age group)

Comparing these categories of pupils shows that pupils of different abilities overall performed well in their museum-based assignments, with at least half of all pupils from each category seeing an increase in their marks compared to previous assignments. This suggests museums are able to support the learning needs of pupils of all abilities, a finding consistent with previous RCMG research studies.

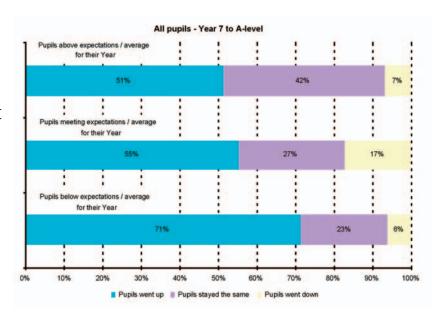


Fig. 9: Assessment marks.
Breakdown by ability-related categories, all pupils

Pupils above expectations / average, N=72; Pupils meeting expectations / average, N=459; Pupils below expectations / average, N=231



The finding that those pupils classified as 'lower ability' improved in their marks for their museum-based assignments was unexpected. Teachers interviewed for the case studies had expressed some concerns about the ability of the less able pupils to demonstrate a benefit from the museum visit in terms of improving their marks, however pupils did benefit from the museum sessions as the following example of pupils from Manor Community College attests.

'Wordscapes' Museums motivating and engaging less able pupils to learn Manor Community College and the Fitzwilliam Museum, Cambridge

Three groups of Year 8 pupils from Manor Community College visited the museum to participate in a session looking at artworks and using them as a stimulus to build vocabulary, language and writing skills. Unlike most other schools in this study, Manor Community College is in a relatively deprived area of Cambridge, with higher than average numbers of pupils eligible for free school meals. In 2004 the school was judged to be failing but since then special measures have been lifted and, whilst standards remain below average, pupils achieve well. Over the last three years, the College has established a good working relationship with the Fitzwilliam Museum in the centre of Cambridge, using artworks to support and stimulate pupils' use of the English language.

Three groups visited the museum during the study, including a group of relatively 'lower ability' pupils. The pupils in the group all had difficulties with reading and writing, some of them had behavioural difficulties. They had low self-esteem and little confidence in their abilities, and some had limited social skills and low levels of concentration. These are pupils who have little experience of visiting museums with their families, and who can feel out of place in the centre of Cambridge. Some pupils did not think that much about the museum before visiting:

'I thought it would be dull at first.'

Both the school and the museum expressed some anxiety about the pupils' responses to the session prior to the session. However, at the museum the pupils behaved unfailingly well. Their teacher was in fact 'shocked at how quickly the kids adjusted' to their work in the museum, quickly settling into a new way of working that involved looking at paintings and building up word banks for use in poetry and prose. Pupils were well behaved throughout the gallery sessions, focusing on the task in hand, participating and writing enthusiastically. By the end of the four hour visit, the pupils were working on their own in silence in front of pictures they themselves had chosen and had produced some thoughtful work which surprised their teacher.

In their assessed pieces of work following the museum visit, six of the pupils experienced an increase in their marks compared to previous assignments, whilst the remaining four pupils achieved similar marks to before. None of the pupils experienced a fall in their marks as a result of the museum visit.

Two of the pupils attributed their improvement to the paintings that they had seen at the museum which they felt helped them to write better:

'Yeah, going to the museum, like, helping, like looking at a picture...'

'Like you describe better and that.'

Although the pupils mostly struggled to articulate the impact they felt that the museum had on their work, they made links to the experience which they saw as important. One pupil referred to the 'concrete' nature of the museum session, the exposure to 'real' paintings, which was important to him:

'...because it's more...When you look at it, it feels more real.'

The majority of the pupils felt that the visit was a good place to learn in a different way from school and one boy appreciated the change from the classroom:

'It was a day out - not in the class room.'

The pupils also appreciated the efforts of the museum educators who facilitated their session and they clearly felt very valued and respected by the welcome that they had received at the museum. All of them agreed that they enjoyed the visit, discovered some interesting things, that the visit had given them a better understanding of the subject and that they could make sense of most of the things they saw and did. This is an extraordinary outcome for a group of 'lower ability' pupils who struggle daily with literacy problems.

Originally the intention was to observe the visit of a group of pupils from a grammar school in the region which would enable us to understand in more detail the impact that a museum visit might have on 'higher ability' pupils. Unfortunately the school withdrew from the research and we were unable to accomplish this. Further research is needed to establish the significance of the following, limited findings. In this study, the majority of 'higher ability' pupils identified from their assessment marks did improve their marks for the museum-based assignments compared to their previous marks. However a smaller proportion of pupils increased their marks (51%) when compared with 'average ability' (55%) and 'lower ability' (71%) pupils. As more able pupils are often self-motivated learners, confident, and already achieving the highest grades the impact of the museum visit on assessment may therefore be less significant.

However, from the case studies there are examples of museum visits having an impact on 'higher ability' pupils, such as Dylan from Downham Market High School.



'Was the workhouse so bad?' Museums motivating and engaging 'higher ability' pupils to learn Downham Market High School and Gressenhall Farm and Workhouse

Dylan, a very able pupil from Downham Market High School, talked about how he had also used information he found at the library and on the internet for his assignment, as he normally did:

'I included it in as different evidence sources and I also included it to like back up other evidence to refine it all.'

However he made the point that the museum visit provided additional evidence which he would not normally have found out and which gave him greater insight and depth into the ways in which inmates would have been treated at the workhouse:

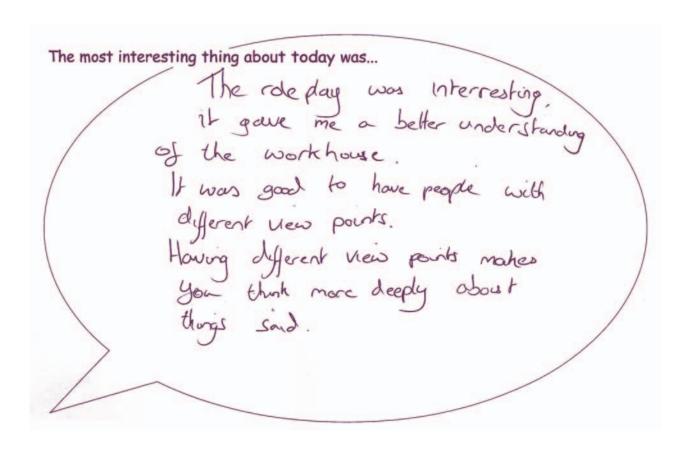
'I actually found a lot more about the way characters were treated because of the arguments and all the dispute [sic] about them.'

Even this very able pupil felt that the museum experience was more compelling than reading about history solely from a book.

'Because if you just read stuff out of a book, it's not really enjoyable and you don't really remember it. But if you go there then you'll enjoy yourself, you'll have great fun and it'll stick in your mind.'

There are many questions raised by this study in relation to pupil ability, some of which are:

- Is the positive impact of the museum visit, as evidenced by the pupils of Manor Community College, short-term or long-term?
- For 'higher ability' pupils already achieving the higher levels in their assignments it may not be possible to measure their progress through better marks for museum-related assignments. May other measures of progression be necessary?
- And what about pupils of 'average ability'? Why did a higher proportion of these pupils experience a decline in their marks for the museum-based assignments (17%) when compared to pupils of 'higher ability' (7%) and 'lower ability' (6%)?



museums engage teenage boys as well as teenage girls

A consistent message from research into pupil attainment is that boys tend to achieve less well than girls, with some researchers claiming that lower achieving boys outnumber girls by three to two. ¹⁶ It is thought that boys may disengage from education, particularly at secondary school level, because they are already disaffected and demoralised by low attainment in primary school particularly in the core subjects of literacy and numeracy. Some GCSE assessments are also believed to favour girls. ¹⁷ For whatever reason, more boys tend to be relatively lower achievers than girls.

A significant finding from this study is that teenage boys are only very slightly behind teenage girls in their achievement in museum-based assessments. For the female pupils in this study, 61% saw an increase in their museum-based assignments compared to previous marks, 27% achieved the same mark and 11% experienced a fall in their marks. For male pupils, 58% experienced an increase in their marks for the museum-based assignments, 26% stayed the same and 16% experienced a fall in their marks.

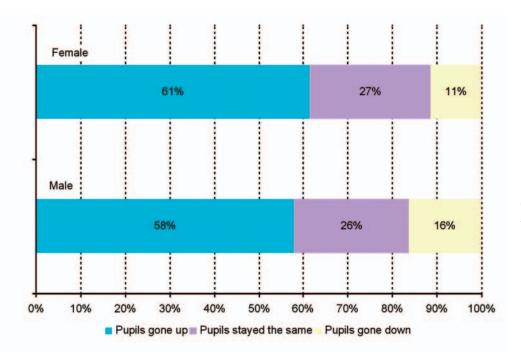


Fig. 10: Assessment marks. Breakdown by gender

Looking at pupils' attitudes towards their museum experience from the questionnaires completed at the end of a museum visit reveals that there is little distinction between the responses of male and female pupils. Both are equally enthusiastic about the museum visit.

Table 2: Form B KS3 and above. Breakdown of pupils' 'Yes' responses by gender

KS3 and above pupils	'Yes' male	'Yes' female
I enjoyed today's visit	90%	92%
I discovered some interesting things from the visit today	89%	94%
A visit to a museum / gallery makes school work more inspiring	74%	83%
The visit has given me a better understanding of the subject	85%	86%
A museum visit is a good chance to pick up new skills	72%	68%
The museum is a good place to learn in a different way to school	89%	91%
I could make sense of most of the things we saw and did at the museum	86%	84%
I would come again	60%	65%
I've left the museum more interested in the subject than when I came	70%	73%

Male, N=195; Female, N=246

What can we make of the similarities between the achievements of male and female pupils? It has been suggested that some boys adopt an anti-education culture in school and that this is something they can 'take refuge in as an alternative identity, placing values and self esteem in things other than those offered by school'. It is the case a session outside the classroom in an environment which is perceived to be fun may encourage boys to achieve more than they would normally do. Furthermore, museum visits appear to inspire and enthuse pupils through intrinsic, rather than extrinsic, motivation which motivates the learner to achieve for themselves rather than for external systems of validation.

The experiences of pupils in museums and galleries are related to a range of skills that require pupils to talk, observe, empathise, and engage in hands-on activities, rather than read and write. Pupils with literacy problems are therefore not necessarily disadvantaged. Where writing was required in the assessment in the museum it was kept to a minimum or, as in the Fitzwilliam session, pupils were supported with 'scaffolded' sessions that enabled them to build up confidence in writing using stimulus material, in this case paintings in the collections. Where writing was required in the follow-up, class-based assessment pupils drew on what they called 'real' experiences that were not book-based. We can tentatively conclude that whilst museum and gallery visits help motivate both boys and girls, they appear to compensate boys for some types of school learning that may disadvantage them. Museum and gallery learning therefore provides a useful tool to support male achievement in school.

deprivation and attainment

Previous research by RCMG has found that museums were serving an unexpectedly high proportion of schools located in areas of high socio-economic deprivation and with relatively high percentages of pupils eligible for free school meals. Pupil attainment is linked with disadvantage in the sense that pupils who under-achieve in school and fail to achieve the required standard in national qualifications may find themselves excluded from many opportunities in a society which values education. Pupils who are disadvantaged are more likely to be lower achievers, effectively trapped in a cycle of disadvantage, as low educational achievement is linked with poor job prospects, low income and poor health.

However, this present study cannot draw any conclusions about the links between attainment and deprivation as experienced by pupils. Most of the schools have below average percentages of pupils who are eligible for free school meals, with only Manor Community College and Downham Market High School having percentages of pupils which are higher than average for the region. Looking at the deprivation of the local area through the school postcode and linking this to the Index of Multiple Deprivation 2004 as in previous studies is problematic because of the size of school catchment areas; only the postcode of Manor Community College, Cambridge, falls into the 20-30% most deprived Super Output Areas¹⁹ in England, of which the East of England region as a whole has relatively few. Most of the schools draw their pupils from mainly rural areas where pockets of deprivation are often difficult to identify as they may be masked by relative affluence in the surrounding area. By using these two methods this study found no direct correlation between attainment through museum visits and deprivation.

tackling difficult areas of the curriculum and assessment

When it comes to looking at why schools use museums to facilitate particular assignments, a significant reason is to give pupils access to resources that are not readily available in schools. These can be physical buildings as in the nineteenth century workhouse building at Gressenhall or objects in the collections such as the paintings in the collections at the Fitzwilliam Museum. Museums have the resources and expert staff to support schools with areas of the curriculum that they would therefore find difficult to cover in the classroom.

Rosemary Musker High School, for instance, uses the Sainsbury Centre for Visual Arts to help tackle an area of the GCSE curriculum in which pupils were required to demonstrate and be measured on 'their response to examples of work from other times and cultures'. Without this visit the pupils would have used photographs whereas the collections available at the Sainsbury Centre give them access to 'real' objects. The positive response of the pupils to the museum visit and the standard of the work produced were directly attributed by their Art teacher, amongst other elements, to the direct interaction with the collections:

'It made such a difference being there because they could absorb the artefacts.'

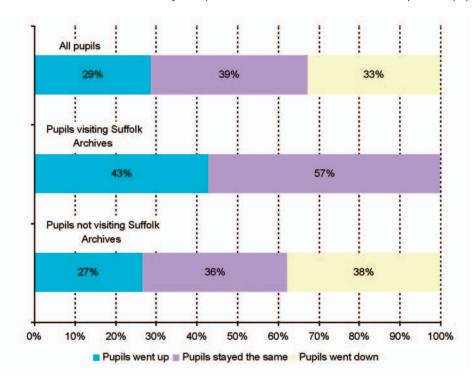
'How important was Thomas Clarkson's role in the abolition of the slave trade?' - Archives helping pupils to tackle difficult subjects

Holbrook High School and Suffolk Archives

To help them complete a History assignment on 'How important was Thomas Clarkson's role in the abolition of the slave trade?' seven Year 8 pupils from Holbrook High School near lpswich took part in a pilot extension project developed by MLA East of England and Suffolk Archives. The assignment was part of a new unit looking at Transatlantic slavery, incorporating more of the history of the abolition movement. The assignment was particularly challenging for pupils as it involved the concept of significance (how significant Thomas Clarkson was to the abolition movement) and the interpretation of a difficult period in history. The project with Suffolk Archives was intended to address some of these issues and to give pupils access to a range of sources which might help them draw their own conclusions.

Pupils spent time in the archives as part of an after-school history club and were able to look at personal possessions that belonged to Thomas Clarkson. As Clarkson was a local man this helped to create a local connection in the minds of the pupils. The Humanities advisor for Suffolk felt that this personal connection with Clarkson helped the young people to become more involved in his story and to go far deeper into his character than would usually be possible from textbooks. Focusing on the abolition movement also gave teachers and pupils a different perspective on the history of Transatlantic slavery, presenting a more complex picture through Thomas Clarkson, who worked at a grassroots level and was in contact with black activists as well as white.

Because of the challenging nature of the assignment, the majority of pupils did not experience an increase in their marks for their assignments. However, the pupils involved in the project with Suffolk Archives were more likely to experience an increase in their marks and less likely to experience a decrease in their marks compared to pupils who were not involved in the project.



The progression of pupils must be looked at in the light of the challenging nature of the assignment which tested pupils on different historical concepts and skills compared to previous assignments. It is also worth noting that the assessment marks used for the above analysis were generated before the end of the project. Subsequent visits to local sites and Ipswich Museum provided pupils with an opportunity to explore the topic in greater depth.

This case study therefore reveals the potential of archives and museums to help pupils tackle complex and sensitive subjects.

Fig. 11: Assessment marks.

Pupils from Holbrook High School and the results for their Clarkson assignment

schools and museums - different models of engagement

This research has uncovered a wide range of models used by museums in the East of England to provide schools with source materials and support to help secondary pupils complete assessed pieces of work. Table 3 describes the main characteristics of some of the models developed between museums and schools in this study to achieve this.

It is not the intention of this study to advocate one single 'best practice' model, and no such model was found. However, the following characteristics appear to provide good learning experiences for secondary pupils:

- Whole day sessions in which pupils are immersed in the museum / gallery experience
- Sessions planned by experienced professional museum educators and led by them or by facilitators trained and supported by them
- Sessions that are highly planned and structured, developed following evaluation and feedback from schools
- Sessions that are integrated into the curriculum and have a cross-curricular impact
- Whole year group participation

Skilful facilitation of the school visit is important

All the sessions were planned and facilitated by professional museum staff who were expert educators. Where they did not lead the sessions themselves they organised and trained other facilitators to take these sessions, as at Gressenhall Farm and Workhouse, or satisfied themselves as to the competence of the specialists who supported sessions, such as the artists at the Sainsbury Centre. The pupils were able therefore to take part in highly facilitated sessions where they enjoyed the attention of a range of highly skilled adult educators. Many pupils expressed appreciation of the work of these adults.

Table 3: Main characteristics of the models developed by museums and schools in this study

School(s)	Museum / Archive	Main characteristics
Downham Market High School	Gressenhall Farm and Workhouse	History Whole year group Day-long session 'Theatre in Education' Use of the site - workhouse
Neatherd High School Fakenham High School	Gressenhall Farm and Workhouse	Geography Whole year group Day-long session 'Theatre in Education' Use of the site - farm etc.
Rosemary Musker High School City of Norwich School	Sainsbury Centre for Visual Arts	Art Day-long session Smaller groups Artist-led Artists in school ²¹ World art as stimulus
Holbrook High School	Suffolk Archives	History 7 pupils After-school club extending core work Archive collections as stimulus
Manor Community College	Fitzwilliam Museum	English Smaller groups Day-long session Museum educator-led Paintings as a stimulus
Hampton College	Peterborough Museum	History Museums loans box as stimulus

Museums can create learning packages for KS3

Sometimes schools used an 'off the peg' session which had been developed by other schools such as Fakenham High School where teachers opted to use a session on the recommendation of another teacher. Thus good practice does not have to mean individually tailored sessions for each school.

Meticulous planning between museums and schools to develop sessions

It is very important for museums to work closely with schools to establish good practice within the museum, to provide schools with what they need and to invest time in developing and refining sessions. Sessions like those offered at Gressenhall Farm and Workhouse and the Fitzwilliam Museum in Cambridge were meticulously planned by museum educators and the schools, sometimes with the support of advisors in the region. They ensured that pupils were engaged and occupied productively from the beginning of the session until the end. Such planning was made possible because of the good relationships built up between schools and museums over a number of years.

Other factors that appear to be important in the development of effective sessions for schools include:

- Good communication between the school and the museum
- Commitment by the school to using the museum visit as a way of completing an assessed piece of work
- Good preparation and follow-up by teachers so that pupils are prepared for the experience and encouraged to develop
 their ideas back in the classroom

conclusions

Museums

Museums can have an impact on the attainment of secondary pupils

Further research is needed into the impact that museums can have on the attainment of secondary school pupils - this study has established some positive findings, attributed to the way in which museums enable positive and beneficial learning experiences for young people, supporting different learning styles and independent learning which increases pupil confidence and motivation.

Museums can increase their delivery for the secondary curriculum

Although a growing market, the use of museums by secondary schools is still proportionally smaller than that by primary schools. Museums could, perhaps, be more proactive in making creative connections between their resources and what schools need, bearing in mind that secondary schools are focused on the National Curriculum and assessment.

Museums can respond to the new secondary curriculum

The new secondary curriculum offers huge opportunities for museums to support the learning of secondary pupils because of the similarities between the characteristics identified as museum learning experiences and those in the new secondary curriculum.

Museums can embrace assessment as a tool for learning

For museum educators, having an understanding of the nature of assessment, how it is integral to learning and informed teaching, and how museums can best support this, is therefore crucial. This could be developed through training.

Museums need time to invest in developing programmes for secondary schools

Museums in this study have made the investment to hone and develop sessions so that they are as effective as possible for pupils, refining them over time and engaging in dialogue with schools so that continual improvements can be made. This investment is crucial. In order for museums to target young people of secondary age there needs to be time given over to planning and development far in advance. It is essential that museums are flexible and self-reflective in what they can offer.

Museums' contribution to Children's Workforce Development needs to be acknowledged

The case studies demonstrate the specialised skills of museum educators that enrich pupil experiences through the use of material culture. Museums need to be proactive in demonstrating the important contribution that they can make to Children's Workforce Development, one which is not currently acknowledged.

Secondary Schools

Museums can have an impact on the attainment of secondary pupils across a range of subjects

Whilst further research is needed this study has established some positive findings in relation to the impact of museums on the attainment of secondary pupils, attributed to the way in which museums enable positive and beneficial learning experiences for young people.

Museums can be used flexibly by secondary schools

Museums are amazing, imaginative resources for schools. They can be used in creative and flexible ways to support different areas of the curriculum, be used by schools seeking either single sessions or multiple contact sessions for their pupils, and they can accommodate groups ranging in size from whole year groups to smaller groups of ten pupils or fewer.

Museums offer different and value added experiences for schools

For pupils, museums offer rich, immersive learning experiences which are enjoyable and memorable. They can inspire and motivate young people, support independent learning and increase pupils' confidence, offering experiences that are not always possible, or indeed desirable, in the school context and all this contributes to raising students' attainment.

Museums can support the new secondary curriculum

The new secondary curriculum presents new opportunities, but also new challenges for schools, in developing a curriculum that responds to the needs of individual learners, that motivates and engages them and helps them to succeed. Museums are well placed to support this development, providing examples of quality, innovative and learner-centred approaches which can appeal to many learning styles.

Museums can encapsulate teaching at its best

In the case studies in this study, museums demonstrate excellence in teaching practice, using a number of approaches such as:

- Live interpretation
- Material culture as stimulus
- Visual literacy
- · Encouraging argument and debate

For teachers, exposure to museum teaching and learning practices presents an opportunity for them to refresh their own practice.

Questions for future research

This research gives a 'snapshot' of the experiences of 762 pupils in nine schools that participated in a museum visit in the East of England. It raises a number of questions for future research into pupil attainment and further investigation into:

- The impact of a museum visit on boys
- The impact of a museum visit on pupils who find it hard to achieve in the classroom
- Refining the tools for measuring the impact of a museum visit on 'higher ability' pupils
- More in-depth case studies looking at the longer-term impacts of a museum visit, for example on the motivation and skills of pupils
- · Comparing pupils who have participated in a museum visit and pupils who have not participated in a museum visit
- The link between deprivation and attainment
- Science learning in museums



The Research Centre for Museums and Galleries (RCMG) would like to thank all the pupils, teachers, museum staff, regional subject advisors, and everyone else who collaborated in this research and for their contributions to this report, with special thanks to Colly Mudie.

Renaissance is the Museums, Libraries and Archives (MLA) Council's £150million programme to transform England's regional museums. For the first time ever, investment from central government is helping regional museums across the country to raise their standards and deliver real results in support of education, learning, community development and economic regeneration. Flagship museums in each English region are working alongside the MLA Regional Agencies and Museum Development Officers to promote good practice and provide advice and support. Renaissance is helping museums to meet people's changing needs - and to change people's lives.

MLA East of England is the agency promoting the region's museums, libraries and archives, and is tasked to develop their unique contribution. It is a charitable company core-funded by the Museums, Libraries and Archives Council (MLA), the lead strategic agency of the sector, and part of the wider MLA Partnership working with the nine regional agencies. The Partnership acts collectively for the benefit of the sector and the public, leading the transformation of museums, libraries and archives for the future.

acknowledgements

engage learn achieve

The impact of museum visits on the attainment of secondary pupils in the East of England 2006-2007