



The Ethics of Brain Research: Evaluation of “Mind the Gap”

Final Report prepared for

Y-Touring

January 2006



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Executive Summary

Introduction

Background

The “*Futures: The Ethics of Brain Research*” project is part of Y-Touring’s Genetics Futures programme and is funded by the Wellcome Trust. The centrepiece of the project is the “Mind the Gap” performance, consisting of a play and supporting debate. The performance was developed through a collaborative process.

The project took place in two stages, a pilot tour in London in the autumn term of 2004, and a national tour in the autumn term of 2005. People Science and Policy Ltd was commissioned to evaluate the whole programme, from the development of the play, the accompanying debate and educational materials through to their delivery in schools. This report presents the findings from the main tour. A separate report is available on the pilot tour.

Objectives

Y-Touring’s application to The Wellcome Trust sets five objectives for the “*Futures: The Ethics of Brain Research*” project. These were to:

1. stimulate and inform debate about the ethics of brain research amongst targeted sets of students;
2. encourage and facilitate inter-disciplinary working amongst school teachers;
3. increase the impact of Theatre in Education, by integrating digital technology into the development and delivery of drama;
4. develop the capacity of professional playwrights to write about topics embracing biomedical issues; and
5. share and disseminate lessons learned during the project.

This evaluation addresses the first four objectives, but not the fifth. That is a long-term objective beyond the scope of this evaluation, although we see dissemination of the findings of the evaluation by Y-Touring as playing a part in supporting the delivery of objective 5.

Methodology

To evaluate whether or not the project “*stimulated and informed debate*” we focused on students. A sample of schools hosting performances of “Mind the Gap” was selected to represent a cross-section of the schools participating. Factors used to construct the sample included the type of school, academic performance and location. Before and after surveys of students were used to assess their knowledge and attitudes and any changes in these as a result of the performance.

We used qualitative analysis of feedback questionnaires from teachers to assess their views on the performance and supporting materials.

During the pilot tour, the survey data was backed up by in-depth qualitative research.



The development of writing capacity was assessed qualitatively through discussions and interviews with playwrights and supporting experts at a writers' workshop and subsequently.

Stimulating and informing debate

The first objective of the Ethics of Brain Research programme is to stimulate and inform debate about the ethics of brain research amongst targeted sets of students. As a piece of entertainment, the Mind the Gap play and debate has been highly successful in engaging and enthusing both students and teachers alike. In the survey of students, the great majority (86%) said that they enjoyed the play. Similarly, over two thirds (69%) said they had enjoyed the debate. In addition over half of the students (55%) agreed that they felt included in the debate, with only 16% actively disagreeing with the statement "*I felt included in the debate*".

Establishing a baseline

The evaluation of the pilot tour had shown that students had some basic understanding of brain disorders and some pre-formed views about the social and ethical issues surrounding brain research. Students had some knowledge about Alzheimer's disease and who brain disorders could affect and also had views on the causes of brain disorders and the treatments for brain disorders.

Sub-groups

Three key factors affected students' baseline knowledge and attitudes, these were:

- age;
- previous experience (either personally or through someone they know) of a brain disorder or mental illness; and
- gender.

Age

The views of the younger age group (14 and under) were less well-formed or certain than those of the older students (15 and over). For 10 of the 18 attitude statements used, the younger students were significantly more likely to be unsure, that is to respond "don't know" or "neither". As well as being more certain of their views, the older students as a group had a better initial understanding of a number of issues, for example the nature and effects of Alzheimer's disease.

Previous experience

Previous experience is defined as those who answered "Yes" to the question "*Have you personally or someone you know had experience of a brain disorder or mental illness?*" Rather like the age factor, experience made students more certain of their views. The students with experience of a brain disorder or mental illness, as a group, also had a better initial understanding of a number of issues.

Gender

Unlike the previous factors, gender did not have an effect on the certainty of initial views. However there were some marked differences between the genders in terms of both knowledge and attitudes. Girls had greater baseline knowledge than boys were more empathetic than boys



and were less inclined to think that medical/chemical interventions were appropriate, although they were more likely to think that brain disorders could be treated.

The impact of the performance

For analysis purposes, we considered three factors, whether students had been informed by the performance, whether they had been stimulated and whether the performance was impacting on all students equally.

Informing

A number of the attitude statements sought to explore students' understanding of the nature and prevalence of brain disorders. There were statistically significant improvements in students' understanding of the nature and prevalence of and potential treatments for brain disorders, for example there was an increase in agreement with the statements:

- “*You can have a brain disorder without knowing about it*” (from 70% to 78%)
- “*Alzheimer's Disease makes you forgetful*” (from 68% to 88%)

In addition, there was increased disagreement with the statements:

- “*Alzheimer's Disease is a disease of the bones*” (from 64% to 85%)
- “*I will never develop a brain disorder*” (from 45% to 58%)

In addition to positive improvements in knowledge, the performance also changed views where it is not proven whether or not these changes represent improved knowledge, for example there was an increase in agreement with the statements:

- “*It is possible for doctors to scan children's brains to see if they will be criminals when they grow up*” (from 10% to 29%)
- “*Drug addiction is caused by a brain disorder*” (from 5% to 12%)

The implications of scanning of young people's brains and whether or not drug addiction can be caused by an underlying disorder were both issues that were raised during the performance. Although neither the possibility of predictive scans nor a causal link between brain disorders and addiction were presented as facts, the material used has clearly affected students' perceptions.

Stimulating thinking

A good deal of the content of “Mind the Gap” focuses on memory in its different incarnations; unwanted memory loss, bad memories and the role of medication in enhancing or diminishing memory. The performance has influenced students' attitudes to these issues, for example there was an increase in agreement with the statements:

- “*I would take a pill that helped me to remember things to pass exams*” (from 25% to 38%)
- “*Victims of horrible crimes should be offered medicines to help them to forget about what happened to them*” (from 17% to 28%)
- “*Developing medicines to treat Alzheimer's Disease is more important than developing medicines to treat drug addiction*” (from 35% to 53%)



Impacting on all students equally

The basic changes described above are repeated across all the students but there are subtle differences within the changes by age, previous experience or gender that have largely led to a reduction in the differences between the groups after the performance.

Age

After the performance there was a marked reduction in the differences between the older and younger students. After the performance the younger students were more definite in their views and had improved levels of knowledge.

Previous experience

In the post performance responses there was far less difference between those with prior experience of a brain disorder or mental illness and those without, suggesting that “Mind the Gap” had given a real insight into what it is like to live with some brain disorders.

Gender

Some of the differences between genders identified at the baseline stage were more pervasive and there are still some significant differences between boys and girls after the performance. For example, after the performance:

- girls were still more likely to agree that “*Alzheimer's Disease makes you forgetful*” (93% compared to 83% of boys)
- girls were still more likely to disagree that “*Alzheimer's Disease is a disease of the bones*” (91% compared to 81%);
- girls were still more likely to disagree that “*I would be embarrassed if someone in my family was diagnosed with a brain disorder or mental illness*” (82% compared to 69%); and
- girls were still less likely to agree that “*I would take a pill that helped me remember things to pass exams*” (35% compared to 49% of boys).

The implication of these findings is that the baseline differences observed for age and experience are largely down to previously acquired knowledge, whether through direct personal experience of brain disorders or greater maturity. The effect of “Mind the Gap” is to supplement students’ knowledge and therefore closes the gaps in knowledge and attitudes between older and younger students and those with or without prior experience of a brain disorder or mental illness. The sustained gender differences however, suggest that there are more fundamental differences in attitudes between boys and girls at this age that are not necessarily linked to personal experience.

Informing Teaching Practices

Teachers’ impressions

The overall reaction of teachers was very positive regarding both the play and the debate. The content was felt to be relevant to the national curriculum for a number of subjects. Both components of the performance kept students’ attention and were considered to be an appropriate length. The Y-Touring debate facilitator was also thought to have made an important contribution to the success of the performance as a whole.



Using “Mind the Gap” and the extra resources to support teaching

None of the teachers who completed feedback questionnaires had used, or planned to use, “Mind the Gap” in isolation. However, use of the supporting resources supplied by Y-Touring was sporadic. Where resources had been used, the teachers were almost unanimous in their view that they had been useful.

The preferred format for resources was generally either printed material or CD-Rom (or DVD). Very few teachers expressed a preference for web-based resources.

Barriers to using “Mind the Gap”

Teachers are well aware of the potential to add value to the performance by undertaking other activities. The principal barrier to using “Mind the Gap” as more than a one-off performance is teachers’ time. This is probably simply a fact of life and additional pro-active marketing of the resources may not lead to greatly enhanced levels of take-up.

Inter-disciplinary teaching

Over half of the teachers reported that “Mind the Gap” was used across departments – these collaborations were between two or more of Science, Drama, English, PHSE and Citizenship. “Mind the Gap” is therefore delivering effectively against its second objective (to encourage and facilitate inter-disciplinary working) and this will also provide opportunities for the first objective to be supported (stimulate and inform debate) by providing more, and different, places within the school timetable for such debate to happen.

Digital technologies

The third objective is to increase the impact of Theatre in Education, by integrating digital technology into the development and delivery of drama in schools. This refers, principally, to the delivery of the teaching materials, and in particular to the accompanying website, where further background and materials are available to be downloaded. There is a demand for digital material from teachers, but at the moment, the preference is for a medium that is in the possession of the teacher (CD-Rom/DVD) rather than the web.

Developing the Capacity of Playwrights

The process of developing the play was a collaborative one, in which a short-listed group of six playwrights was invited to a workshop with people from science, the arts and education. Although most of the writers had been writing for several years and had previous experience of working with Theatre in Education, few had addressed science-based issues before. The expert participants viewed the project as a good opportunity to communicate, reach out and engage with non-experts on issues surrounding biomedical science.

Nearly all of the playwrights felt that the process had opened their eyes to the possibilities of writing creatively about science and had helped to debunk the myth that science was devoid of emotion and everyday human interest. Many were given ideas they would like to pursue in the future. All those involved expressed interest in taking part in future projects and highly commended the experience of working with Y-Touring.



Conclusions and Recommendations

Conclusions

The product

“Mind the Gap” has delivered against its objectives. The performance has proved to be a powerful way of both informing and stimulating debate. The students have found the performance both enjoyable and engaging and their knowledge and attitudes have changed as a result of the experience. Teachers regarded the performance as a useful aid to teaching and hosting performances has encouraged cross-curricular working in schools. There is some demand amongst teachers for support provided via digital technology and the majority have used the project website. Finally, the project has contributed successfully to the development of the capacity of professional playwrights to write about topics embracing biomedical issues.

The process

The iterative approach to writing the play, developing the debate and then refining both has been very successful. The impact of the performance on students and teachers is testament to this.

Recommendations

Mind the Gap

“Mind the Gap” is now essentially a completed product that can be added to the Y-Touring portfolio. If particular breakthroughs occur in any of the areas of brain science that the play covers, it may be appropriate to update the play, otherwise the extremely positive reactions of students and teachers suggests that there is little more that could be done to improve it.

Science-based Theatre in Education

This evaluation has shown that not only does good Theatre in Education have an impact on students, but that it is possible to measure that impact. Teachers are reasonably content to work with evaluators as they appreciate the importance of feedback to being able to demonstrate an impact for the providers and funders of Theatre in Education. Targeted evaluations of projects will allow providers and funders to demonstrate the impact of projects. There is also scope for independent evaluations to provide input to the development of new projects as shown by the work on the pilot tour of “Mind the Gap”.

If the intention of a particular science-based Theatre in Education project is to impart knowledge, then it will be very important that the content of the play is thoroughly scrutinised for accuracy. This is because of the potency, demonstrated here, of the medium in influencing students. Y-Touring uses an intensive development process drawing together experts and playwrights. This model works for Y-Touring because of their track record in the field. Other theatre groups entering the field will need to build a model that works for them, but accuracy of science is always likely to be a concern for funders and stakeholders. Finding a way to ensure accuracy will add credibility to proposals to develop science-based Theatre in Education.

Evaluation

Working directly with schools can be time-consuming, but it is a very effective way for an independent evaluator to build relationships with teachers and with their help collect good quality data from students. Using qualitative work to augment surveys should always be considered, especially where an evaluation is playing a formative role in the development of a new project.



1 Introduction

1.1 Background

The “*Futures: The Ethics of Brain Research*” project is part of Y-Touring’s Genetics Futures programme and is funded by the Wellcome Trust. The aim was to develop a Theatre in Education project on the issues surrounding the brain targeted at 14-16 year old science and humanities school students and post-16 biology students.

The play has been developed through a collaborative process in which a number of playwrights were identified by Y-Touring through discussions with agents. A short listed group were then invited to a workshop with people from the worlds of science communication, science, the arts and education as well as some students from the target age group. Following this, interested writers submitted synopses to Y-Touring. Abi Bown’s synopsis “*Mind the Gap*” was selected by an expert panel and developed into a play lasting about an hour. Y-Touring have developed an audience debate to follow the play.

The project took place in two halves beginning with a pilot tour in London and then a larger and more extensive tour around the rest of the country. The London Tour took place in the autumn term of 2004, and the national tour in the autumn term of 2005.

People Science and Policy Ltd was commissioned to evaluate the whole programme, from the development of the play, the accompanying debate and educational materials through to their delivery in schools.

1.2 Objectives

Y-Touring’s application to The Wellcome Trust sets five objectives for the “*Futures: The Ethics of Brain Research*” project. These were to:

1. stimulate and inform debate about the ethics of brain research amongst targeted sets of students;
2. encourage and facilitate inter-disciplinary working amongst school teachers;
3. increase the impact of Theatre in Education, by integrating digital technology into the development and delivery of drama;
4. develop the capacity of professional playwrights to write about topics embracing biomedical issues; and
5. share and disseminate lessons learned during the project.

We have addressed objective 1 through an investigation of the attitudes and behaviours of students attending performances and participating in debates and objective 2 through an investigation of the attitudes and behaviours of teachers. For objective 3 we have sought initial views from both students and teachers. Finally, for objective 4 we have explored the process of developing the play and the supporting materials, and investigated the attitudes and behaviour of the playwrights and others engaged with the writers’ workshops, playwriting and development of other materials.



We have not evaluated the fifth objective. This is a long-term objective and we see this report as playing a part in supporting the delivery of objective 5 as it can be used in the dissemination by Y-Touring of what works, what does not and why.

1.3 Methodology

The methodology for the evaluation is structured around the first four objectives for the Ethics of Brain Research project set out above.

To evaluate whether or not the project “*stimulated and informed debate*” we focused on students. A sample of schools hosting performances of “Mind the Gap” was selected to represent a cross-section of the schools participating. Factors used to construct the sample included the type of school, academic performance and location.

We used surveys before and after students had experienced the performance to assess their knowledge and attitudes and any changes in these as a result of the performance. For the national tour we received 1,555 pre-performance responses and 652 post-performance responses.

To assess whether the project had “*encouraged and facilitated inter-disciplinary working amongst school teachers*” and “*integrated digital technology into the development and delivery of drama*” we used feedback questionnaires from teachers that were analysed qualitatively. Feedback was received from just over half of the schools participating in the national tour (22 out of 39)

The development of writing capacity was assessed qualitatively through discussions and interviews with playwrights and supporting experts at a writers’ workshop and subsequently.

1.4 This report

This report sets out the findings from the national tour in the autumn term of 2005. Where appropriate the findings are compared to those from the pilot tour. Both the play and the evaluation methodology were amended slightly following the pilot, so we do not feel that it is appropriate to add together the two sets of evaluation data. Rather we will highlight where they are consistent and any differences between the two tours. Detailed data from the first tour is available in the interim report provided for Y-Touring in November 2004.

This report is structured around the key objectives 1 to 4, as set out above. The next chapter focuses on the impact of the Mind the Gap performance on students’ knowledge of, and attitudes towards, brain disorders and brain research. The third chapter addresses the usefulness of the package as an educational tool from the perspective of the teachers. The fourth chapter discusses the process of developing the play. The final chapter draws together some conclusions and recommendations regarding the development of science-based Theatre in Education. The report concludes with annexes detailing the methodologies used for the evaluation.



2 Stimulating and informing debate

The first objective of the Ethics of Brain Research programme is to stimulate and inform debate about the ethics of brain research amongst targeted sets of students.

At a top-line level, the play appears to have met this objective. As a piece of entertainment, the Mind the Gap play and debate has been highly successful in engaging and enthusing both students and teachers alike. In the survey of students, the great majority (86%) said that they enjoyed the play. Similarly, over two thirds (69%) said they had enjoyed the debate.

These findings are testament to the ability of the performance to hold the attention of large groups of students over a long period, and to engage audiences of up to 150 in group debate. Over half of the students (55%) agreed that they felt included in the debate, with only 16% actively disagreeing with the statement “*I felt included in the debate*”.

It is also noticeable that these figures have increased since the pilot tour, where 72% had enjoyed the performance and 50% had enjoyed the debate. This shows that the fine tuning and editing undertaken between the two tours by Y-Touring and Abi Bown has had a positive impact on the ability of the performance to engage students.

Teachers reported that pupils were highly attentive during both the play and the debate. This reflects the findings from the pilot tour, including observational findings and qualitative feedback from both students and teachers.

To assess the impact of the play in greater detail, we first need to consider some baselines.

2.1 Establishing a baseline

The evaluation of the pilot tour had shown that students had some basic understanding of brain disorders and some pre-formed views about the social and ethical issues surrounding brain research. It was therefore important to ensure that baselines were established for the national tour so students in selected schools were given a questionnaire by their teachers to complete before they saw the play.

Students had some knowledge about what Alzheimer’s Disease is and who brain disorders could affect:

- approximately two thirds of students disagreed that “*Alzheimer’s Disease is a disease of the bones*” (64%) and agreed that “*Alzheimer’s Disease makes you forgetful*” (68%);
- the great majority of students (88%) disagreed that “*Brain disorders only affect old people*”;
- most (70%) agreed that “*You can have a brain disorder without knowing about it*”.

Students also had views on the causes of brain disorders:

- almost three quarters of students agreed that “*Drug addiction can lead to a brain disorder*” (73%) and disagreed that “*Drug addiction is caused by a brain disorder*” (71%).



In terms of treatments for brain disorders:

- a significant minority (39%) said they did not know in response to the statement “*If you are born with a brain disorder there is nothing you can do about it*”;
- the majority (80%) agreed that “*The best way to help people get over bad experiences is by letting them talk about it*”; and
- less than a fifth (17%) agreed that “*Victims of horrible crimes should be offered medicines to help them forget about what happened to them*”.

2.1.1 Sub-groups

The pilot stage had highlighted three key factors that affected students’ baseline knowledge and attitudes, these were:

- age;
- previous experience (either personally or through someone they know) of a brain disorder or mental illness; and
- gender.

Age

We have split the responses into two age bands, 14 and under (base = 677) and 15 and over (base = 809). The views of the younger age group were less well-formed or certain than those of the older students. For 10 of the 18 attitude statements used, the younger students were significantly more likely to be unsure, that is to respond “don’t know” or “neither”, these statements were:

- *Brain disorders only affect old people*
- *Alzheimer's Disease is a disease of the bones*
- *I will never develop a brain disorder*
- *Drug addiction can lead to a brain disorder*
- *You can have a brain disorder without knowing about it*
- *Alzheimer's Disease makes you forgetful*
- *If you are born with a brain disorder there is nothing you can do about it*
- *Developing drugs to treat Alzheimer's Disease is more important than developing drugs to treat drug addiction*
- *I would be embarrassed if someone in my family was diagnosed with a brain disorder or mental illness*
- *Not being able to remember would be worse than not being able to forget*

As well as being more certain of their views, the older students as a group had a better initial understanding of a number of issues. The older students were more likely to agree that:

- *Drug addiction can lead to a brain disorder*” (79% compared to 69%)
- *You can have a brain disorder without knowing about it*” (74% compared to 66%)
- *Alzheimer's Disease makes you forgetful*” (75% compared to 61%)

In addition, the older students were more likely to disagree with the statements:

- “*Alzheimer's Disease is a disease of the bones*” (71% compared to 55%)
- “*I will never develop a brain disorder*” (50% compared to 38%)



- *“If you are born with a brain disorder there is nothing you can do about it”* (47% compared to 32%)

Previous experience

Previous experience is defined as those who answered “Yes” to the question *“Have you personally or someone you know had experience of a brain disorder or mental illness?”* 647 (42% of respondents) students replied “Yes”, 550 (35% of respondents) replied “No” with a further 342 (22% of respondents) “Not sure”.

We have compared those with experience, with those who were sure that they had no experience. Rather like the age factor, experience made students more certain of their views. For the following attitude statements, the students without experience were significantly more likely to be unsure:

- *Brain disorders only affect old people*
- *Alzheimer's Disease is a disease of the bones*
- *I will never develop a brain disorder*
- *Drug addiction can lead to a brain disorder*
- *You can have a brain disorder without knowing about it*
- *Alzheimer's Disease makes you forgetful*
- *If you are born with a brain disorder there is nothing you can do about it*
- *I would be embarrassed if someone in my family was diagnosed with a brain disorder or mental illness*

The students with experience of a brain disorder or mental illness, as a group, had a better initial understanding of a number of issues. The students with experience of a brain disorder or mental illness were more likely to agree that:

- *“Drug addiction can lead to a brain disorder”* (81% compared to 71%)
- *“You can have a brain disorder without knowing about it”* (78% compared to 66%)
- *“Alzheimer's Disease makes you forgetful”* (75% compared to 65%)

In addition, the students with experience of a brain disorder or mental illness were more likely to disagree with the statements:

- *“Alzheimer's Disease is a disease of the bones”* (72% compared to 61%)
- *“I will never develop a brain disorder”* (51% compared to 42%)
- *“If you are born with a brain disorder there is nothing you can do about it”* (49% compared to 36%)

The students with experience of a brain disorder or mental illness also showed some attitudinal differences. They were more likely disagree that *“I would be embarrassed if someone in my family was diagnosed with a brain disorder or mental illness”* (86% compared to 73%). They were also more likely to agree that *“Developing drugs to treat Alzheimer's Disease is more important than developing drugs to treat drug addiction”* (51% compared to 41%).



Gender

Unlike the previous factors, gender did not have an effect on the certainty of initial views. However there were some marked differences between the genders in terms of both knowledge and attitudes.

Girls (base = 924) had greater baseline knowledge than boys (base = 564), were more empathetic than boys and were less inclined to think that medical/chemical interventions were appropriate, although they were more likely to think that brain disorders could be treated.

For example:

- girls were more likely to agree that “*Alzheimer's Disease makes you forgetful*” (72% compared to 63%)
- girls were more likely to disagree that “*Alzheimer's Disease is a disease of the bones*” (68% compared to 57%);
- girls were more likely to disagree that “*I would be embarrassed if someone in my family was diagnosed with a brain disorder or mental illness*” (84% compared to 69%);
- girls were less likely to agree that “*I would take a pill that helped me remember things to pass exams*” (20% compared to 34%); and
- girls were less likely to agree that “*If you are born with a brain disorder there is nothing you can do about it*” (16% compared to 28%).

2.2 The impact of the performance

The principal objective of this Theatre in Education project in relation to students was to:

- stimulate and inform debate about the ethics of brain research amongst targeted sets of students.

Having established baselines before students saw the performance, the students were also given, by their teachers, a follow-up questionnaire after the performance. The follow-up questionnaire asked a number of the same questions as the baseline and included additional questions about what students thought of the play and the debate and how useful they had found them.

For analysis purposes, we have divided this overarching objective into three related but distinct questions. These are:

- *Informing* students – is the play successful in helping students to better understand complex scientific, social and ethical issues to do with the brain?
- *Stimulating* thinking – is the play causing students to think and to re-evaluate their preconceptions about matters to do with the brain?
- Is the play/debate impacting on all students equally?

2.2.1 Informing

A number of the attitude statements sought to explore students' understanding of the nature and prevalence of brain disorders. Table 1 (below) shows where there were statistically significant changes in the responses given after the performance compared with those given before they had seen it.



The boxes highlighted in yellow indicate a significant increase, whilst those in blue show a significant decrease.

Table 1 Impact on Knowledge

	Pre-performance (Sample 1555)			Post-performance (Sample 662)		
	Agree	Disagree	Undecided	Agree	Disagree	Undecided
Alzheimer's Disease is a disease of the bones	7%	64%	29%	3%	85%	12%
I will never develop a brain disorder	3%	45%	51%	3%	58%	37%
You can have a brain disorder without knowing about it	70%	6%	23%	77%	6%	17%
Alzheimer's Disease makes you forgetful	68%	3%	27%	88%	2%	8%
If you are born with a brain disorder there is nothing you can do about it	21%	40%	39%	17%	46%	37%

Table 1 shows that there have been in views and knowledge. However, table 2 shows that not all of the changes are necessarily desirable. For example, students appear to have taken as ‘fact’ some of the ideas for discussion, where the science is not yet possible or certain. Again, the boxes highlighted in yellow indicate a significant increase, whilst those in blue show a significant decrease.

Table 2 Impact on Knowledge?

	Pre-performance (Sample 1555)			Post-performance (Sample 662)		
	Agree	Disagree	Undecided	Agree	Disagree	Undecided
It is possible for doctors to scan children's brains to see if they will be criminals when they grow up	10%	67%	22%	29%	43%	27%
Drug addiction is caused by a brain disorder	5%	71%	23%	12%	63%	24%

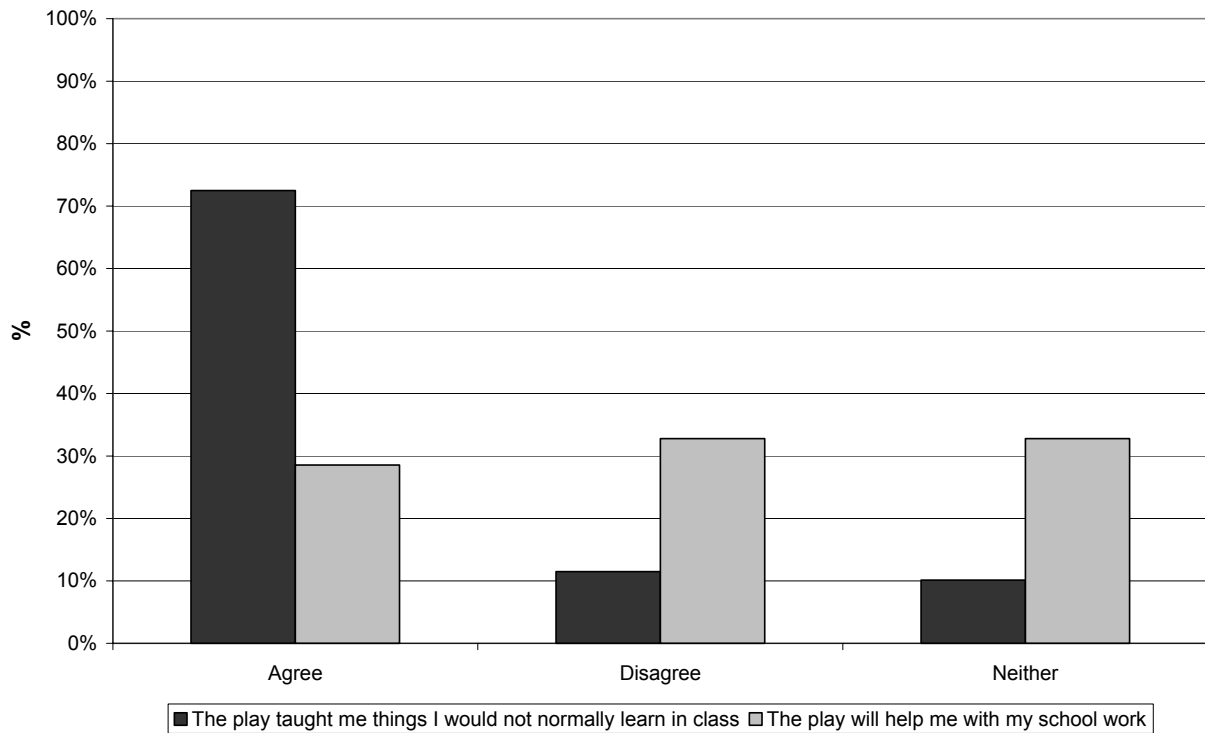
The implications of scanning of young people’s brains and whether or not drug addiction can be caused by an underlying disorder were both issues that were raised during the performance. Although neither the possibility of predictive scans nor a causal link between brain disorders and addiction were presented as facts, the material used has clearly affected students’ perceptions.

2.2.2 Students’ perceptions of learning

The students themselves were convinced that the performance had supported learning. However, although they thought that “Mind the Gap” was helping them to learn material that they would not encounter in normal lessons, students did not necessarily see this as directly relevant to their school work (see figure1).



Figure 1 Relevance and learning (base =662)



This perception on behalf of the students reflects the qualitative feedback gathered during the pilot tour:

“The play is not really that relevant to our school work; it is more relevant to society. It is particularly good for children our age because it gives us the chance to express our opinions in an open and adult way.”
 GCSE student

Teachers on the other hand were more inclined to believe that the content of the play was directly relevant to school work (see section 3.1.5).

2.2.3 Stimulating thinking

A good deal of the content of “Mind the Gap” focuses on memory in its different incarnations; unwanted memory loss, bad memories and the role of medication in enhancing or diminishing memory. Table 3 summarises the changes in attitude provoked by the performance. The boxes highlighted in yellow indicate a significant increase, whilst those in blue show a significant decrease.



Table 3 Attitudes to memory

	Pre-performance (Sample 1555)			Post-performance (Sample 662)		
	Agree	Disagree	Undecided	Agree	Disagree	Undecided
I would take a pill that helped me to remember things to pass exams	25%	53%	21%	38%	48%	13%
Improving your memory makes you cleverer	32%	30%	36%	28%	42%	29%
Victims of horrible crimes should be offered medicines to help them to forget about what happened to them	17%	55%	27%	28%	48%	23%
Developing medicines to treat Alzheimer's Disease is more important than developing medicines to treat drug addiction	35%	10%	43%	53%	11%	33%
Not being able to remember would be worse than not being able to forget	45%	15%	38%	50%	12%	37%

One of the characters in “Mind the Gap” was clearly suffering from distressing memory loss, whilst another character was explicitly suffering from bad memories and a third made less obvious reference to bad memories. For the main character who might have wanted to forget, mechanisms for coping were discussed, whereas the character with memory loss (through Alzheimer’s disease) was presented as untreatable. The situations of the characters may have led to an increase in agreement that not being able to remember was worse than not being able to forget. This concern about memory loss was also reflected in the increased number of students who regarded the development of treatments for Alzheimer’s disease as more important than treatments for drug addiction.

There are some interesting contradictions in students attitudes to medical interventions. Even though the students were more likely to disagree that an improved memory makes you cleverer after the performance, the perceived benefit of better exam results for the same amount of work meant that they were more likely to agree that they would take a ‘memory pill’ to help them pass exams. There was no similar change in students’ views on more general enhancement. The response to the statement “*It is wrong for healthy people to take drugs or medicines to help them perform better*” was 59% agreed before the performance and 58% agreed after the performance with, disagreement was 18% both before and after the performance.

2.2.4 Impacting on all students equally

The basic patterns reported in sections 2.1.1 and 2.2.2 are repeated across all the students but there are subtle differences within the changes by age, previous experience or gender that have largely led to a reduction in the differences between the groups after the performance.

Age

After the performance there was a marked reduction in the differences between the older and younger students. After the performance the younger students were more definite in their views and had improved levels of knowledge. There were still some differences in attitude and knowledge. For example, the older students were still somewhat more knowledgeable about



Alzheimer's disease and the potential for treating brain disorders. Thus the older students were still more likely to disagree with the statements:

- “*Alzheimer's Disease is a disease of the bones*” (94% compared to 79%)
- “*If you are born with a brain disorder there is nothing you can do about it*” (53% compared to 37%)

Previous experience

In the post performance responses there was far less difference between those with prior experience of a brain disorder or mental illness and those without. Those with experience still had a better knowledge of Alzheimer's disease and thought that developing treatments for Alzheimer's was more important than developing treatments for drug addiction and were more likely to disagree with the statement “*If you are born with a brain disorder there is nothing you can do about it*” (49% compared to 36%). Other than this the marked differences between the two groups had disappeared, suggesting that “Mind the Gap” had given a real insight into what it is like to live with some brain disorders.

Gender

Some of the differences between genders identified at the baseline stage are more pervasive and there are still some significant differences between boys and girls after the performance.

For example:

- girls were still more likely to agree that “*Alzheimer's Disease makes you forgetful*” (93% compared to 83%)
- girls were still more likely to disagree that “*Alzheimer's Disease is a disease of the bones*” (91% compared to 81%);
- girls were still more likely to disagree that “*I would be embarrassed if someone in my family was diagnosed with a brain disorder or mental illness*” (82% compared to 69%); and
- girls were still less likely to agree that “*I would take a pill that helped me remember things to pass exams*” (35% compared to 49%).

In addition:

- after the performance girls were more likely to agree that “*It is wrong for healthy people to take drugs or medicines to help them perform better*” (64% compared to 51%).

The implication of these findings is that the baseline differences observed for age and experience are largely down to previously acquired knowledge, whether through direct personal experience of brain disorders or greater maturity. The effect of “Mind the Gap” is to supplement students' knowledge and therefore closes the gaps in knowledge and attitudes. The sustained gender differences however, suggest that there are more fundamental differences in attitudes between boys and girls at this age that are not necessarily linked to personal experience.

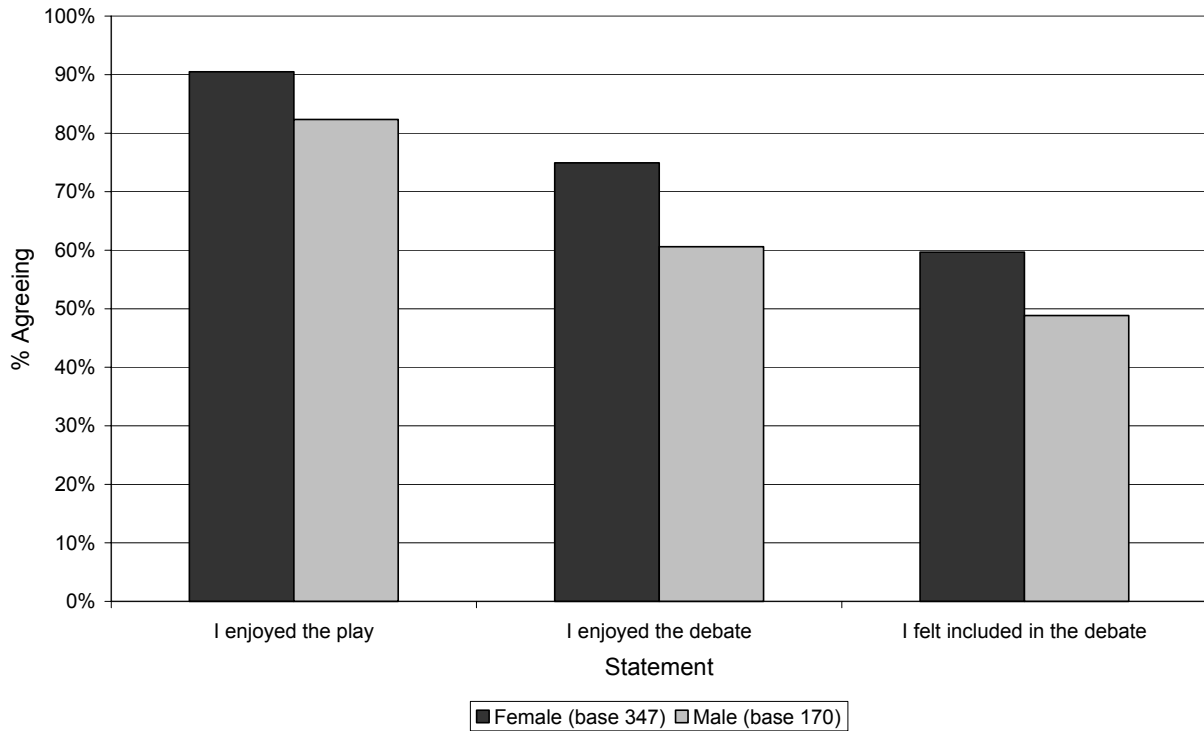
2.3 Enjoyment and engagement

We found in the interim evaluation that the performance had a larger impact on those students who had enjoyed it most. The high levels of enjoyment during the main tour meant that there were insufficient students who did not enjoy the performance to allow a comparable analysis. However we have been able to consider enjoyment and engagement by gender. Figure 2 shows



that although there were high levels of enjoyment and engagement of the performance girls were more likely to have enjoyed the individual aspects and to have felt included in the debate.

Figure 2 **Enjoyment and engagement by gender**



Although the play engaged boys it has been to a lesser extent than girls and the initial knowledge and attitude differences between the genders have remained. Interestingly although three of the four characters were male, boys were less likely to agree with the statement “*I could relate to the characters in the play*” (44% compared to 51%).

There are not similar differences for students of different ages, although younger students were more likely to strongly agree that they had enjoyed the play than older students (44% aged 14 and under compared to 26% aged 15 and over). With regard to whether or not students had prior experience of brain disorders, this had no effect on their enjoyment of the performance, but those with prior experience were more likely to have felt included in the debate.

2.4 Conclusions

This evaluation has shown that the performance (the play and debate combined) exerts a powerful influence on the perceptions and attitudes of young people. In addition to the extensive impacts on knowledge and attitudes, the extremely positive levels of engagement achieved make the Y-Touring model a very effective one.

Y-Touring does not seek to teach students the ‘right’ answer, rather it is aiming to inform and provoke discussion. This approach means that conflicting messages are included and that sometimes students may draw conclusion that would not necessarily be regarded as factually accurate given the current state of scientific knowledge.



Y-Touring has developed a powerful method for influencing students, so in situations where it is important that the impacts are 'right' for example have students learnt correct 'facts', it is necessary to consider the nature of material included.

The presentation of hypothetical scenarios is one situation where it may be necessary to emphasise the difference between currently accepted knowledge and future possibilities. In a fast-moving piece of theatre it could be easy for "*it may become possible*" to be heard or interpreted as "*it is possible*". The twin elements of the play and the debate mean that the debate could be used to allow a detailed exploration of hypothetical scenarios to ensure that students are clear about the differences between current science/knowledge and potential future situations.



3 Informing Teaching Practices

This part of the evaluation of the national tour took the form of a qualitative assessment of written feedback from teachers at participating schools. Feedback was received from just over half of the schools in the main tour (22 out of 39).

The teachers who responded worked in a variety of departments. Just over a third were from science departments and just under a third from English/drama departments. Others worked in languages, PSHE and student support. Just over half of the schools had hosted Y-Touring productions before, of those that had not about half had previously used other Theatre in Education groups, so for about a quarter of the schools this was their first experience of Theatre in Education.

3.1 Teachers' impressions

The second objective of the Ethics of Brain Research programme is to encourage and facilitate inter-disciplinary working amongst school teachers. This is a demanding objective, school timetables and the setting of students in different groups for different subjects can be barriers to effective inter-disciplinary work. It is therefore important to also consider the impact on teachers at a more fundamental level. For example to address:

- What were teachers' views on the performance (the play and the debate)?
- What were teachers' views on the supporting resources?
- How have teachers used the performance and supporting materials?
- What barriers may prevent teachers from gaining more use from the programme?
- To which subject(s) is "Mind the Gap" most relevant?

3.1.1 The performance

The overall reaction to the play by teachers was very positive.

All the teachers, from whom we had feedback agreed that the students were attentive during the play and none felt that the play went on for too long. Most of the teachers commented on the high overall quality of the play highlighting the acting, writing and content. The play was considered to be extremely thought-provoking, raising important issues.

"I thought it dealt with a difficult subject in an interesting way. It was entertaining and yet informative."

Teacher

Similarly, the majority of comments from teachers concerning the debate were also very positive. All agreed that students were attentive, and many very engaged, during the debate and most felt the length of the debate (usually of the order of 45 minutes) was right. Some teachers highlighted that the strategies used by the Y-Touring facilitator to encourage students were very impressive such as enhancing the atmosphere by keeping actors in character and asking students to discuss things with neighbours.

"Asking pupils to discuss with their neighbours possible questions to ask was a very good approach otherwise they may have sat quietly and said nothing."

Teacher



Although the response was generally positive, some of the teachers felt that the set-up of the debate was intimidating to some of the students. Some teachers argued that the large group approach excluded some of the students and ideas like a roaming microphone or splitting the students into groups might engage more students.

“Would have preferred students to be split into smaller groups to accommodate ‘quieter’ students.”

Teacher

3.1.2 Using “Mind the Gap” and the extra resources to support teaching

None of the teachers had used, or planned to use, “Mind the Gap” in isolation. However, use of the supporting resources was sporadic. The majority of the teachers had visited the Y-Touring website, but only a few had downloaded educational materials. Some were not aware of having received preparatory lessons in an introductory pack.

About half of the teachers had done some preparatory work with students, about a third having used the preparatory lesson plan. Just over half the teachers had visited the website before the performance and most of the teachers had downloaded resources. A couple of teachers reported using completing baseline evaluation questionnaire as a trigger for initial discussions, reflecting the qualitative findings in the interim report.

There was however, a widespread intention to undertake subsequent work. Almost all the teachers intended to have follow-up discussions and two thirds intended to download materials and use follow-up lesson plans. In light of the barriers discussed in section 3.1.3 there may not be the widespread use of formal resources that teachers said they were planning, but the qualitative work completed during the pilot stage suggests that there will be a high level of informal follow-up and discussion.

Where resources had been used, the teachers were almost unanimous in their view that they had been useful. Some teachers suggested ways of making the resources more appropriate for their needs. One suggestion was that videos of the play (on tape or CD/DVD) would help them with follow-up work, one teacher also suggested resources such as posters or adverts to promote the play beforehand. A couple of teachers said that the material was not suitable for use in different classes and suggested the possibility of material for different age groups and abilities.

“Possibly a ‘Foundation Level’ version for use with some classes.”

Teacher

The feedback from teachers on the sorts of resources that they would like to see in the future suggests that there are potential demands for most of the options offered, but this needs to be set against the relatively limited uptake of the existing resources. The most popular resource was a video of the performance

The preferred format for resources was generally either printed material or CD-Rom (or DVD). Very few teachers expressed a preference for web-based resources, even though they had visited the associated web site as part of hosting “Mind the Gap”.



3.1.3 Barriers to using “Mind the Gap”

Teachers are well aware of the potential to add value to the performance by undertaking other activities. The principal barrier to using “Mind the Gap” as more than a one-off performance is teachers’ time. Some teachers highlighted the fact that they simply had too much to do to use the materials effectively.

“The real problem is how much time a person in school has to use them [resources] and prepare the group who will watch the play.”

Teacher

This is probably simply a fact of life. Some teachers do use the resources, so it makes sense for Y-Touring to continue to produce them, but additional pro-active marketing of the resources may not lead to greatly enhanced levels of take-up.

3.1.5 Relevance of “Mind the Gap”

All but one of the teachers felt that the information given in the play was relevant to the national curriculum. Teachers were asked to identify the subject that the performance was most relevant to, but many highlighted more than one indicating that it supports a number of subjects. The most frequently cited subject was PSHE and other relevant subjects were Science, English, Drama and Biology. One teacher commented on this wide relevance and its benefit to the students.

“Very cross curricular therefore satisfying to the majority of students.”

Teacher

3.2 Inter-disciplinary teaching

Over half of the teachers reported that “Mind the Gap” was used across departments – these collaborations were between two or more of Science, Drama, English, PHSE and Citizenship. These collaborations seem to be a natural extension of the cross-curricular relevance of the performance mentioned above. It also broadens the opportunities for the students to apply what they are learning.

“Mind the Gap” is therefore delivering effectively against its second objective (to encourage and facilitate inter-disciplinary working) and this will also provide opportunities for the first objective to be supported (stimulate and inform debate) by providing more, and different, places within the school timetable for such debate to happen.

3.3 Digital technologies

The third objective is to increase the impact of Theatre in Education, by integrating digital technology into the development and delivery of drama in schools. This refers, principally, to the delivery of the teaching materials, and in particular to the accompanying website, where further background and materials are available to be downloaded.

There is a demand for digital material from teachers, but at the moment, the preference is for a medium that is in the possession of the teacher (CD-Rom/DVD) rather than the web. This is not that surprising. Even though schools have increasing access to the Internet, teachers have limited time available to access it.



3.4 Conclusions

Teachers rate the educational value of Theatre in Education extremely highly. Whether teachers use the educational materials and teaching packs, and which subjects teachers use the performance to support, however, appears to be dependent on individuals. This is not a reflection of the quality of the materials but on the time resources of the teacher, the demands of the curriculum and the availability of facilities to enable teachers to access and reproduce the materials in time for the performance. Where resources have been used, they have generally been regarded as suitable, although some suggestions were made on ways to improve them.

The way that “Mind the Gap” has supported cross-curricula working has been valued by teachers.



4 Developing the Capacity of Playwrights

The fourth objective of the Ethics of Brain Research programme is to develop the capacity of professional playwrights to write about topics embracing biomedical issues. The process of developing the play was a collaborative one, in which a number of playwrights were first identified by Y-Touring through discussions with agents. A short listed group of six were then invited to a workshop with people from science, the arts and education including some students from the target age group. Following this, interested writers submitted synopses to Y-Touring. Abi Bown's synopsis "*Mind the Gap*" was selected by an expert panel and developed into a play lasting about an hour. Y-Touring developed the debate to accompany the play.

PSP has interviewed all six of the writers who attended the workshop, six of the experts involved and the student representatives at the workshop. We explored their reasons for getting involved with the project, their views and experiences of the project, and their outlooks on future involvement in similar projects.

4.1 Background experiences

The writers who were selected to attend the workshop had a range of backgrounds. Most had had been writing for several years, although some were closer to the beginning of their writing careers than others. The newer writers also had other theatrical experience that they brought to bear. Most of the writers had had previous experience of working with Theatre in Education (TiE) companies before and a couple had previously worked with Y-Touring. However, few had addressed science-based issues before in great depth, and in many cases, had not considered writing on these issues before. This was partly because writing about science was seen as quite difficult. As well as the impact of the Y-Touring process on opening up some of the science behind brain research, the subject matter of this particular project was viewed as particularly intriguing and therefore of interest to writers.

For the "expert" participants, individuals got involved with the project through a variety of routes, which usually involved either personal experience of Y-Touring or an introduction through some trusted person who had already been involved with Y-Touring. They were broadly supportive of the Y-Touring approach and generally impressed with what they had seen of previous work. On the whole, these experts were keen to help on a voluntary basis, and this was sometimes connected to a perceived duty, as experts on biomedical science, to communicate, reach out and engage with non-experts on issues surrounding biomedical science.

4.2 The writers' workshop

Both writers' and experts' perceptions of the workshop were extremely positive. On the whole, it was deemed to be well organised, to have a format that worked well and to have a good breadth of people present. The writers, in particular, felt that the divergent perspectives represented by the experts were especially constructive in helping them to focus their synopses, and the presence of students was seen as particularly useful. The recurring opinion of the writers was that the dynamic nature of the workshop definitely helped to provoke new ideas and provided enough information to produce a synopsis. In fact one writer believed that the workshop gave them enough information to develop an idea that they previously thought to have been "*out of my league.*"



The variety of input from the experts was seen as particularly useful. However a few of the writers were slightly intimidated by the experts and described feeling a bit “*thrown in.*” A couple of participants mentioned that some of the time should have been used to mix people up more in order to help participants’ to build relationships with the experts, which could subsequently be drawn on during the synopsis and drafting phases that followed.

Most of the writers were familiar with a workshop type of environment for aspiring writers, for example some TV productions use this approach. They were not therefore unduly concerned that their contributions would aid the other writers (their competitors).

The students present at the workshop described feeling marginalised by the experts and felt that their views were not taken seriously by them. While this was not the intention, indeed a number of the experts praised the decision to have students present, it is a perception that needs to be considered when drawing together such diverse groups.

The experts present at the workshop also viewed it as a good event that opened up a lot of issues. However, they did raise some concerns about the breadth of the issues raised, and consequently, about whether some subjects were covered too superficially. At the same time, there was also some concern that some of the potentially more interesting topics were discussed in less detail because they were “*too difficult*”.

4.3 The selection and drafting process

The majority of the writers did not attempt to contact people that they had met at the workshop during the synopsis-writing phase; either because they didn’t have enough time or because they felt that they didn’t quite know how to approach them. It was thought that Y-Touring could have done more to help this process as the writers felt “*a bit shy*” about this, and said they did not know “*how to ask the questions.*” This was despite Y-Touring’s attempts to offer assistance and encourage interaction. It probably has to be accepted that, even with an intensive process such as that used by Y-Touring, it is not easy or quick for anyone to build relationships with “experts” from other fields.

The writers who did contact experts, however, reported that their input had been extremely useful. For some of the writers, the relatively short timetable was seen as a hindrance. This was often because they had other commitments at the same time. The competitive nature of the commissioning process and the modest rewards for success (a standard equity ITC contract with the standard industry agreed fee) led some writers to give the synopsis a lower priority than existing commitments. However, others disagreed and felt that the short timescale was ideal because it had forced them to focus their ideas. They were also encouraged by the fact that Y-Touring would allow them to exploit the idea elsewhere should their synopsis be unsuccessful.

The expert panel felt that they had enough time to work through the submitted synopses, although some people were not sure that they had the requisite theatre-based experience to offer meaningful comments. They also raised questions over whether the writers had picked the “right” subject matter. This is a tricky area as “experts” will have deeply held views on the important issues and may well not agree themselves over what these are. Good theatre without a good issue won’t lead to a good debate; equally, no matter how important, topical and pertinent the issue, if the theatre is weak then the chance to stimulate informed debate may be lost. This leads into a major issue for theatre groups looking to develop this sort of production. The process



of using “expert” advisers will mean that writers and experts are working in unfamiliar ways. One person suggested that both writers and experts were taking a risk by getting involved in something outside their normal paradigms. This means that there will be an onus on the theatre group to broker mutual understanding. Y-Touring has developed a core of goodwill that can be drawn on within this process, which may not be available to theatre companies new to science-based TiE.

In terms of the developing the chosen synopsis, *Mind the Gap*, into a play, the experts generally felt that although the draft needed work (due mostly to problems with stereotyping and rather “superficial” or “added-on” science), these problems were viewed as resolvable and most were pleased with the finished product. Some expressed disappointment about the extent to which they had been able to comment during the drafting process. This was partly due to their own competing time pressures, but was also due to the constraints of the pro-forma response for commenting used by Y-Touring. One person felt that this restricted what they were able to say and meant they were unable, for example, to comment on the plot and on individual characters. Some, on the other hand, expressed reservations about whether they should be commenting on the dramatic elements of the play at all.

Only one expert had had any direct contact with the playwright, Abi Bown, during the drafting process. Many felt that they would have liked to have seen better feedback cycles in place during the development process that would enable them to keep up with the wider picture of what was going on and with the feedback of other participants. A regular group e-mail from Y-Touring was suggested as one way of implementing this system.

Whilst it is clear that drawing in experts can add value to a TiE project, the more that they are engaged, the more work there will be for the theatre company. For individual projects it will be important to consider the trade-off between added value and the resources required to support the experts.

4.4 The future

Nearly all of the playwrights involved reported that their involvement in the process had opened their eyes to the possibilities of writing creatively about science and several said that it had given them ideas they would follow-up in the future. For them, the process had helped to debunk the myth that science was some complicated, abstract notion completely devoid of emotion and everyday human interest, and had made them realise that contemporary science was something that was, in many ways, a part of their work already.

There was an overall consensus among both writers and experts that the project had been worthwhile and that they would be interested in being involved in similar projects in the future, whether with Y-Touring or with other similar groups. Most felt that the time they devoted to ‘*Mind the Gap*’ had been relatively small and could be fitted in around other commitments.

Y-Touring’s track record inspired a high level of confidence amongst those familiar with their work and this was communicated to those who had not previously encountered Y-Touring. This trust in general and in key individuals at Y-Touring meant that people were happy to accept that the final product would be good, regardless of the state of progress along the way. This trust is hard won and for established groups such as Y-Touring ensuring that they continue to deliver is



an important factor in maintaining trust. For new groups such trust has to be won in the first place.

4.5 Conclusions

The Ethics of Brain Research project has contributed successfully to the development of the capacity of professional playwrights to write about topics embracing biomedical issues. Both playwrights and expert advisers have felt highly engaged by the process and have expressed a keenness to be involved in similar projects in the future.

However, the relationship between the expert advisers on scientific issues and those involved in the playwriting process must be carefully managed to inspire confidence in both sides to engage with each other's areas of expertise. There is a danger that the playwrights can feel distanced from, and intimidated by, the scientific experts, whilst the scientific experts feel unsure about commenting on the dramatic aspects of a play about science. Effective relationship brokering across these two communities will demand resources from theatre companies seeking to use this approach and the trade-off between benefits and resources required will have to be assessed by theatre companies on a case-by-case basis.

There is also a need for students' views to be taken more seriously, since they are the potential audience for the play. The need to both build and manage these relationships is essential for a well-rounded and successful end product.



5 Conclusions and Recommendations

5.1 Conclusions

5.1.1 The product

It is clear that “Mind the Gap” met the majority of its objectives, which were, to:

1. stimulate and inform debate about the ethics of brain research amongst targeted sets of students;
2. encourage and facilitate inter-disciplinary working amongst school teachers;
3. increase the impact of Theatre in Education, by integrating digital technology into the development and delivery of drama;
4. develop the capacity of professional playwrights to write about topics embracing biomedical issues; and
5. share and disseminate lessons learned during the project.

The performance (the play and the debate) have proved to be a powerful way of both informing and stimulating debate. The students have found the performance both enjoyable and engaging and their knowledge and attitudes have changed as a result of the experience. Boys were slightly less effectively engaged than girls, nonetheless the great majority of boys enjoyed the performance and there was a definite impact on the knowledge and attitudes of both genders.

A note of caution is the very power of the performance to influence young people. Where there are situations where it is important that the impacts are ‘right’ for example that students have learnt correct ‘facts’, it is necessary to consider the nature of material included. Hypothetical scenarios are one area where it is potentially easy for audiences to hear “it may be possible” as “it is possible”.

Teachers regarded the performance as a useful aid to teaching and hosting performances has encouraged cross-curricular working in schools. There is some demand amongst teachers for support provided via digital technology and the majority have used the project website. Teachers’ use of the additional support materials is sporadic, but this is not a comment on the quality of materials, they were well regarded by the teachers who had used them. Rather the lack of uptake reflects the time pressures, under which teachers are working.

The project has contributed successfully to the development of the capacity of professional playwrights to write about topics embracing biomedical issues. Both playwrights and expert advisers have felt highly engaged by the process and have expressed a keenness to be involved in similar projects in the future.

5.1.2 The process

The iterative approach to writing the play, developing the debate and then refining both has been very successful. The impact of the performance on students and teachers is testament to this.

The early development phases were generally well received by the playwrights who produced synopses and the experts who provided support and advice. The workshop was appreciated by all the adult participants although some of the students felt marginalised. However the idea that



there might be follow-up interaction between playwrights and experts did not really come to fruition. It probably has to be accepted that, even with an intensive process such as that used by Y-Touring, it is not easy or quick to build relationships with “experts” from other fields.

The development of “Mind the Gap” from the original synopsis was a collaborative process drawing on different sources of expertise. This means that playwrights and experts are working in unfamiliar ways and means that there is a crucial role for theatre companies in supporting all the contributors. Over time, Y-Touring has developed a trusted reputation and with that considerable goodwill that can be drawn on within this process. Trust and goodwill take time to win and it may not be easy for groups new to science-based Theatre in Education to follow the Y-Touring model.

5.2 Recommendations

5.2.1 Mind the Gap

“Mind the Gap” is now essentially a completed product that can be added to the Y-Touring portfolio. If particular breakthroughs occur in any of the areas of brain science that the play covers, it may be appropriate to update the play, otherwise the extremely positive reactions of students and teachers suggests that there is little more that could be done to improve the play. One thing that might be addressed during preparation for the debate element in future performances is the importance of emphasising the difference between science that is relatively certain and science that is not yet possible or much less certain.

There is no need for further detailed evaluation of “Mind the Gap” in future productions other than gathering modest amounts of feedback from teachers to ensure that the whole package is continuing to meet their needs.

5.2.2 Science-based Theatre in Education

This evaluation has shown that not only does good Theatre in Education have an impact on students, but that it is possible to measure that impact. Teachers are reasonably content to work with evaluators as they appreciate the importance of feedback to being able to demonstrate an impact for the providers and funders of Theatre in Education. Targeted evaluations of projects will allow providers and funders to demonstrate the impact of projects. There is also scope for independent evaluations to provide input to the development of new projects as shown by the work on the pilot tour of “Mind the Gap”. This does not mean that Theatre in Education should be evaluated ad nauseum, once a project has been tested and its ability to meet its objectives proven then light touch ‘customer satisfaction’ evaluation is all that is required in the longer term.

If the intention of a particular science-based Theatre in Education project is to impart knowledge, then it will be very important that the content of the play is thoroughly scrutinised for accuracy. This is because of the potency of the medium in influencing students. Y-Touring uses an intensive development process drawing together experts and playwrights. This model works for Y-Touring because of their track record in the field. Other theatre groups entering the field will need to build a model that works for them, but accuracy of science is always likely to be a concern for funders and stakeholders. Finding a way to ensure accuracy will add credibility to proposals to develop science-based Theatre in Education.



5.2.3 Evaluation

Working directly with schools can be time-consuming, but it is a very effective way for an independent evaluator to build relationships with teachers and with their help collect good quality data from students. Using qualitative work to augment surveys should always be considered, especially where an evaluation is playing a formative role in the development of a new project.

For the return of paper questionnaires it might be appropriate to consider using either special delivery or couriers given the potential shortcomings of standard first class post.

Section 5.2.2 warns of over evaluation, but the success of “Mind the Gap” in changing students’ perceptions and attitudes raises a question that could be explored in a future evaluation; “Does the effect last?” To explore this would require baseline, short-term and longer-term follow-up surveys to be undertaken.



Annex 1 Methodology

Stimulating and informing debate

A sample of 14 schools hosting performances of “Mind the Gap” was selected to represent a cross-section of the schools participating. Factors used to construct the sample included the type of school, academic performance and location. Teachers were contacted by telephone to ask for their co-operation with distribution, completion and return of questionnaires. Although teachers are not easy to contact because of their classroom responsibilities we found that the great majority of teachers were happy to help with the evaluation, once contact had been made.

Paper-based baseline self-completion questionnaires on knowledge and attitudes towards brain disorders, mental illness and brain research were sent to 14 schools and given to students 1-2 weeks prior to the performance of the Mind the Gap play and debate. A similar questionnaire was completed 1-2 weeks after the performance with additional questions about what students thought of the play and the debate and how useful they had found them. The baseline questionnaire is at Annex 2 and the follow-up questionnaire is at Annex 3.

Students were asked to enter their names and schools on both the pre and post-performance questionnaires. This allowed us to allocate a unique identifier to each student so that the data on each questionnaire could be linked. We did not therefore have to repeat some of the baseline questions for example those relating to age and gender. Once the unique identifier had been allocated, each questionnaire was anonymised prior to data entry.

We received 1,555 pre-performance responses and 652 post-performance responses were returned. The number of post-performance responses was depressed as batches from two of the participating schools never arrived at PSP, despite the schools confirming despatch. A lesson here is that it may be appropriate to use special delivery services for the return of completed questionnaires, as the added value of ensuring higher response rates outweighs the marginal extra cost. Nonetheless these sample sizes are perfectly adequate to support statistical analysis.

Analysis was conducted on a number of dimensions. It was found that the most strongly determining factors were:

- Level of personal experience of brain disorders/mental illness (including whether it has been discussed at home or at school before and after the Mind the Gap performance);
- Gender; and
- Age (14 years and under versus 15 years and over).

In addition to the questionnaire, we also interviewed and observed students during the pilot tour in London in order to provide formative feedback to Y-Touring and to gain an insight into the underlying reasons for the survey responses.

Encouraging inter-disciplinary work amongst teachers

During the pilot tour, there was some confusion about the distinction between the independent evaluation and Y-Touring’s own ongoing collection of feedback. For this tour our evaluation



questions were amalgamated with the Y-Touring feedback form so that there was a single response opportunity for teachers. The overall response was better with 22 replies from teachers (compared to 11 in the pilot tour).

The analysis was supported by face-to-face interviews with teachers in three schools during the pilot tour.

Developing writing capacity

PSP attended the writers' workshop and conducted six subsequent depth interviews with the writers and six interviews with other participants in the workshop. The topics explored with the writers were:

- their attitudes to biomedical research as a potential subject for drama and whether these have changed as a result of the project;
- the value of the workshops and support mechanisms provided by the project; and
- their interest in developing further material using biomedical research as a central plot element.

The topics explored with the other participants were:

- motivation for supporting the project;
- views on the synopses; and
- perceptions of their role in the project.

Interviews lasted 15-45 minutes and analysis was conducted thematically on the basis of hand-written notes and some tape-recordings.



Annex 2 Student Questionnaire (“Pre” Performance)

THE FUTURE OF BRAIN RESEARCH



This questionnaire is part of a study on research into the brain. The questionnaire is not a test and your answers will not be used in any way by your teachers or your school. Your answers will be completely confidential, which means that no individual's can be picked out. Your answers are important and will help develop future projects for schools about the brain.

PLEASE WRITE YOUR NAME

PLEASE WRITE YOUR SCHOOL

What was your age last birthday?

What Year group are you in?

Q1 Below are some things that other people have said about brain disorders. Please state how much you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	Don't Know
a) Brain disorders only affect old people.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Alzheimer's Disease is a disease of the bones.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I will never develop a brain disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Drug addiction can lead to a brain disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) You can have a brain disorder without knowing about it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Alzheimer's Disease makes you forgetful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Improving your memory makes you cleverer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) It is possible for doctors to scan children's brains to see if they will be criminals when they grow up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Drug addiction is caused by a brain disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) If you are born with a brain disorder there is nothing you can do about it.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2 Have you personally or someone you know had experience of a brain disorder or mental illness?
 Yes..... No Not sure

Q3 Below are some more things that other people have said about brain disorders. Please state how much you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	Don't Know
a) I would take a pill that helped me to remember things to pass exams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) The best way to help people get over bad experiences is by letting them talk about it.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Victims of horrible crimes should be given medicines to help them to forget about what happened to them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) It is wrong for healthy people to take drugs or medicines to help them perform better.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) If someone with a brain disorder or mental illness commits a crime they should still go to prison	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Developing medicines to treat Alzheimer's Disease is more important than developing medicines to treat drug addiction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) I would be embarrassed if someone in my family had a brain disorder or mental illness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Not being able to remember would be worse than not being able to forget	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Q4 How much do you think you know about...

	A lot	A bit	Nothing
How the brain works.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Different types of brain disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How other people view people with brain disorders.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alzheimer's Disease.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Traumatic Stress Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Causes of brain disorders.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treatments for brain disorders.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Panic attacks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memory loss.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q5 Have you ever discussed brain disorders or brain research...

	Yes	No
In your lessons at school?.....	<input type="checkbox"/>	<input type="checkbox"/>
With your family or friends?.....	<input type="checkbox"/>	<input type="checkbox"/>
With a doctor?.....	<input type="checkbox"/>	<input type="checkbox"/>

Finally, the next questions ask about you:

Q6 What is your favourite subject at school?

Science.....	<input type="checkbox"/>	English.....	<input type="checkbox"/>	PSHE/Citizenship ..	<input type="checkbox"/>	Spanish.....	<input type="checkbox"/>
Biology.....	<input type="checkbox"/>	Art.....	<input type="checkbox"/>	Geography.....	<input type="checkbox"/>	German.....	<input type="checkbox"/>
Chemistry.....	<input type="checkbox"/>	RE/RS.....	<input type="checkbox"/>	Music.....	<input type="checkbox"/>	Drama.....	<input type="checkbox"/>
Physics.....	<input type="checkbox"/>	History.....	<input type="checkbox"/>	ICT.....	<input type="checkbox"/>	Games/PE.....	<input type="checkbox"/>
Maths.....	<input type="checkbox"/>	D&T.....	<input type="checkbox"/>	French.....	<input type="checkbox"/>	Something else.....	<input type="checkbox"/>

Q7 What did you get in your last SATs for...

Science.....	
Maths.....	
English.....	

Q8 Are you male or female?

Male..... Female.....

Q9 How would you describe your ethnic origin?

Black African.....	<input type="checkbox"/>	Indian.....	<input type="checkbox"/>	White UK.....	<input type="checkbox"/>
Black Caribbean.....	<input type="checkbox"/>	Pakistani.....	<input type="checkbox"/>	White European (non-UK).....	<input type="checkbox"/>
Black UK.....	<input type="checkbox"/>	Bangladeshi.....	<input type="checkbox"/>	White, other.....	<input type="checkbox"/>
Chinese.....	<input type="checkbox"/>	Other Asian.....	<input type="checkbox"/>	Other.....	<input type="checkbox"/>

Thank you very much for your time



People Science and Policy Ltd.



Annex 3 Student Questionnaire (“Post” Performance)

THE FUTURE OF BRAIN RESEARCH



This questionnaire is part of a study on research into the brain. You may have seen a play and debate on the topic recently. The questionnaire is not a test and your answers will not be used by your school. Your answers will be completely confidential, which means that no individual's can be picked out. Your answers are important and will help develop future projects for schools about the brain.

PLEASE WRITE YOUR NAME

PLEASE WRITE YOUR SCHOOL

Q1 Below are some things that other people have said about brain disorders. Please state how much you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	Don't Know
a) Brain disorders only affect old people.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Alzheimer's Disease is a disease of the bones.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I will never develop a brain disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Drug addiction can lead to a brain disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) You can have a brain disorder without knowing about it.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Alzheimer's Disease makes you forgetful.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Improving your memory makes you cleverer.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) It is possible for doctors to scan children's brains to see if they will be criminals when they grow up.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Drug addiction is caused by a brain disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) If you are born with a brain disorder there is nothing you can do about it.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q2 Have you personally or someone you know had experience of a brain disorder or mental illness?

Yes..... No..... Not sure.....

Q3 Below are some things that other people have said about brain disorders. Please state how much you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	Don't Know
a) I would take a pill that helped me to remember things to pass exams.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) The best way to help people get over bad experiences is by letting them talk about them.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Victims of horrible crimes should be offered medicines to help them to forget about what happened to them.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) It is wrong for healthy people to take drugs or medicines to help them to perform better.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) If someone with a brain disorder or mental illness commits a crime they should still go to prison.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Developing medicines to treat Alzheimer's Disease is more important than developing medicines to treat drug addiction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) I would be embarrassed if someone in my family had a brain disorder or mental illness.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Not being able to remember would be worse than not being able to forget....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q4 Did you see the "Mind the Gap" play and debate that was performed at your school recently?... Yes No

Q5 Have you had any discussions about brain disorders or brain research since the play?

In your lessons at school?.....	<input type="checkbox"/>	<input type="checkbox"/>
With your family or friends?.....	<input type="checkbox"/>	<input type="checkbox"/>
With a doctor?.....	<input type="checkbox"/>	<input type="checkbox"/>



Q6 What did you think of the play? Please say how much you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
I enjoyed the play.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I could relate to the characters in the play	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I could relate to where the play was set.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found it difficult to follow the story	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The science bits in the play were hard to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The play taught me things I would not normally learn in class.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The play will help me with my school work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I didn't always understand what was going on in the play.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The play was boring.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q7 What did you think of the debate after the play? Please say how much you agree or disagree with the following statements:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
I enjoyed the debate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt included in the debate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate covered subjects we wouldn't normally discuss in class.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate helped me to understand what happened in the play	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I found it difficult to keep up with the debate.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate was boring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q8 Please say how much you felt the play and debate helped you to understand the following topics:

	A lot	A bit	Not at all
How the brain works.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Different types of brain disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How other people view people with brain disorders.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alzheimer's Disease.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Traumatic Stress Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Causes of brain disorders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Treatments for brain disorders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Panic attacks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memory loss.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q9 Which subject(s) at school do you think the information from the play and debate will be most useful for?

Science.....	<input type="checkbox"/>	English.....	<input type="checkbox"/>	D&T.....	<input type="checkbox"/>	French.....	<input type="checkbox"/>
Biology.....	<input type="checkbox"/>	Art.....	<input type="checkbox"/>	PSHE/Citizenship.....	<input type="checkbox"/>	Spanish.....	<input type="checkbox"/>
Chemistry.....	<input type="checkbox"/>	Drama.....	<input type="checkbox"/>	Geography.....	<input type="checkbox"/>	German.....	<input type="checkbox"/>
Physics.....	<input type="checkbox"/>	RE/RS.....	<input type="checkbox"/>	Music.....	<input type="checkbox"/>	Other.....	<input type="checkbox"/>
Maths.....	<input type="checkbox"/>	History.....	<input type="checkbox"/>	ICT.....	<input type="checkbox"/>	None.....	<input type="checkbox"/>

Q10 Do you have any other comments you would like to make about the play or the debate?

Thank you very much for your time



Annex 4 Teacher Questionnaire

Mind the Gap: Teachers' Evaluation

Please spare some time to complete this questionnaire about your views on the "Mind the Gap" production. Please be as honest as possible. Your feedback is important; it will be used to inform an independent evaluation of this production that will contribute towards improving theatre in education projects for schools in the future.

Please return completed forms either directly to the Mind the Gap tour manager, or by post to Y-Touring Theatre Company, 8-10 Lennox Rd, Finsbury Park, London N4 3JG, or by Fax to 020 7272 8413. You can also complete it online at www.peoplescienceandpolicy.com/snap/gapteachers.htm

Date of performance _____ Your position _____

School _____ Your department _____

Your name _____ No. of students who attended _____

Please list the names of all the other staff who attended the performance, their position and their departments

Q1 Which year groups were present at the performance(s)?

Year 9 Year 10 Year 11 Year 12 Year 13

Q2 What sections of the *Mind the Gap* production were you present for?

The entire play and debate The debate only Neither the play nor the debate
 The play only Only part of the play or the debate

Q3 What did you think of the play/debate? Please say how much you agree or disagree with the following:

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
The students were attentive during the play	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The students were attentive during the debate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The play was too long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate was too long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The play/debate raised issues that are relevant to the national curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The information about brain disorders was correct and clear.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate facilitated student participation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate highlighted issues raised in the play	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would be interested in restaging the debate in my class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organising the play/debate caused a lot of disruption to lessons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The educational impact of the play was worth the disruption to lessons.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would recommend the play to other teachers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would book another Y-Touring play again	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q4 Please give your comments on the play, including how, if at all, it could be improved



Q5 Please give your comments on the debate, including how, if at all, it could be improved

Q6 To what extent have you discussed the play and the issues raised in the play in your classes?

	Yes	No
Did the students discuss the brain, brain disorders or brain research in class before the play?	<input type="checkbox"/>	<input type="checkbox"/>
Did you use the preparatory lesson before the play?	<input type="checkbox"/>	<input type="checkbox"/>
Will you discuss the brain, brain disorders or brain research with the students in class after the play?	<input type="checkbox"/>	<input type="checkbox"/>
Do you intend to use any of the follow-up lesson plans?	<input type="checkbox"/>	<input type="checkbox"/>
Did you visit the Y-Touring "Mind the Gap" website before the play?	<input type="checkbox"/>	<input type="checkbox"/>
Do you intend to visit the Y-Touring "Mind the Gap" website after the play?	<input type="checkbox"/>	<input type="checkbox"/>
Did you download any educational materials from the Y-Touring website before the play?	<input type="checkbox"/>	<input type="checkbox"/>
Do you intend to download any educational materials from the Y-Touring website after the play?	<input type="checkbox"/>	<input type="checkbox"/>
Are you using play and/or education materials in conjunction with other departments in the school?	<input type="checkbox"/>	<input type="checkbox"/>
If yes, which others?		

Q7 Which subject in school do you feel the play was most useful/relevant to (please tick one)

<input type="checkbox"/> Science (biology)	<input type="checkbox"/> PSHE/Citizenship	<input type="checkbox"/> None
<input type="checkbox"/> Science (general)	<input type="checkbox"/> English	<input type="checkbox"/> All equally
<input type="checkbox"/> D&T	<input type="checkbox"/> Drama	<input type="checkbox"/> Other

Q8 What educational resources would you find useful to have in the future?

<input type="checkbox"/> Photocopiable handouts	<input type="checkbox"/> Video of the play
<input type="checkbox"/> Materials to inform your teaching	<input type="checkbox"/> Script of the play
<input type="checkbox"/> Lesson plans	<input type="checkbox"/> Plan of the debate
<input type="checkbox"/> Posters	<input type="checkbox"/> Other pupil resources
Other, please specify	

Q9 What form would the resources be most useful in?

<input type="checkbox"/> Printed materials	<input type="checkbox"/> CD-rom	<input type="checkbox"/> Web-based
--------------------------------------------	---------------------------------	------------------------------------

Q10 How useful you have found the following aspects of the Mind the Gap project as educational tools?

	Very useful	Useful	Not very useful	Don't know
The play	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The debate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The preparatory lessons in the introductory pack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The online lesson plans/activity sheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The online play synopsis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The online discussion triggers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The online information sheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The online points of view	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Q11 Please give your comments on the educational resources, including how, if at all, they could be improved

Q12 Have you seen/been involved in booking a theatre-in-education production before?

Yes, from Y-Touring Yes, from another company No

If it was from Y-Touring, what was the subject?

If it was from another company, what was the subject?

Q13 How did you first hear about the opportunity to view *Mind the Gap*?

From a mailing sent by Y-Touring directly to me From the local theatre
 From information provided by another member of staff From word of mouth
 From an internal memorandum Other

Q14 Please give us your impressions of Y-Touring. Please rate your experience of the following aspects of the service

	Very good	Good	Satisfactory	Poor	Very poor
Professionalism.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flexibility.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpfulness.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friendliness.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficiency.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reliability.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q15 Please give your comments on the service, including how, if at all, it could be improved

Thank you very much for your time.
Please visit the Mind the Gap website for more teaching ideas and resources:
<http://www.vtouring.org.uk/productions/teachersresources.html>

