National Academy for Gifted and Talented Youth (NAGTY)

EVALUATION OF THE SUMMER SCHOOLS 2005

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EXECUTIVE SUMMARY

The NAGTY summer schools, 2005

During the summer of 2005, the National Academy for Gifted and Talented Youth (NAGTY) offered summer schools for its student members at eight universities throughout England. The host universities – of Warwick, York, Lancaster, Imperial College London, Christ Church College Canterbury, Durham, Bristol and Leeds – provided 53 courses, or strands. All of these strands lasted for two weeks, with the exception of those at the University of Warwick and Christ Church College Canterbury, which were of three weeks duration. Altogether, 1,000 students, between the ages of 11 and 16 attended the 2005 summer schools, which was the fourth year in which NAGTY had offered the experience to its student members.

In this report, the sites are identified only by a code letter – these were randomly assigned and do not mirror the alphabetical order of the site names. The code key has been given to NAGTY, in confidence, so that NAGTY may liaise with individual sites about any site-specific issues, as it sees fit.

The evaluation

This is the fourth independent evaluation of the NAGTY summer schools conducted by the Centre for Educational Development, Appraisal and Research (CEDAR). Building on the previous three studies, the methodology adopted was a mixed methods approach, combining face-to-face interviews, questionnaires and the reading of relevant documentation. CEDAR fieldworkers visited six of the eight university sites, and conducted a total of 110 interviews with strand leaders, qualified teachers, small groups of students, and small groups of Residential Assistants. In addition, nearly 1000 end of summer school questionnaires were distributed to students at all sites, of which 892 were completed and returned.

The reporting process for the 2005 evaluation is different from in previous years. For the 2005 summer schools, CEDAR's reporting is presented in three parts:

- An examination of Seven Case Study strands, identified by NAGTY as being exemplar strands.
- The Summer School 2005 Report.

- A follow-up report based on post summer-school questionnaires and telephone interviews with students and staff at the 2005 summer schools.

In addition to presenting an overview of the 2005 summer schools, this Summer School 2005 Report builds upon previous CEDAR evaluations to examine the key elements in the NAGTY summer school model, and its delivery, that have contributed to the success of the programme.

This **Executive Summary** is presented in three sections:

- *Headline Conclusions*
- *Main Findings*

1. Headline Conclusions

- **At the end of the summer school, 97.1% of students reported that the summer school had been a 'very worthwhile' or 'worthwhile' experience.**
- **87.5-93.8% of students rated the teaching and learning experience on their strand as 'very good/very appropriate', or 'good/appropriate' across several dimensions.**
- **93.6% of students rated the social aspects of the summer school as 'very good' or 'good'.**
- **There were some statistically significant differences between summer school sites on a number of dimensions.**
- **The overall picture is one that is characterised by a very high level of student satisfaction with all aspects of the summer school experience**.

2. Main findings

The aim of this report has been to build upon the considerable amount of data gathered from previous summer schools to place the 2005 summer school in a broader context. Specifically, the rationale behind the report has been:

1. to identify the key factors in the successful organisation and delivery of summer school strands

2. to identify the key factors that underpin the NAGTY summer school model as a successful and transferable model. This has been done with particular reference to the two new summer school sites in 2005.

Teaching team recruitment and strand planning

- The basic teaching team model, composed of an academic strand leader, a qualified teacher, and two teaching assistants, is the most common model. Nonetheless, it is a widely modified model. Some strands draw upon a large number of academic staff, typically providing a single teaching session each.
- Some long-running strands were staffed by an experienced summer school team that exhibited a high degree of ownership of the strand. Other such strands were staffed by a new team. Continuity was maintained in these cases by having some staffing overlap between years, with the use of academic shadowing being an example of this.
- The recruitment of qualified teachers is still heavily dependent upon the personal contacts of academic strand leaders. In some cases, this is problematic, especially when academics do not have access to a suitable network. As a result, where team recruitment difficulties arise, they tend to be difficulties in recruiting suitable qualified teachers.
- The overwhelming majority of strands exhibited good planning processes, although a very small number did not.
- Good strand planning depended upon three key points:

    1. The planning process began months before the start of the summer school.
    2. The staff were recruited early in the planning process, and fully briefed in good time for the start of the strand.
    3. A clear framework for the entire strand was created, but a framework that was open enough for a variety of options to be implemented.

- The course content of successful strands was characterised by flexibility, and the development of a sufficiently large resource bank that enabled staff to respond to the emergent interests of the students.

Teaching and learning

- Typically, all members of the strand teaching teams found teaching on the summer schools to be a rewarding experience.
- The delivery of successful teaching and learning experiences depended on four key features:

    1. The creation of a relaxed environment.
    2. Enjoyable activities.
    3. Variety in terms of tasks, topics, and teachers.
    4. A mixture of staff-directed and student-led activities.

- Students appreciated the fact that the summer school was not like their usual experience of school; that, for example, the staff were friendly and treated the students like adults.
- A minority of strands made frequent use of university-style lectures. These were, in general, not particularly successful in the eyes of the students.
- Students were overwhelmingly positive about the teaching and learning experience. 89.5% of student respondents rated the teaching methods on their strands as ‘very good’ or ‘good’. 87.9% of students felt that there was a ‘very good’ or ‘good’ balance between theory and practical examples on their strands. 86.5% felt that they had experienced a ‘very appropriate’ or ‘appropriate’ level of challenge from the material they used on the strands. 93.8% of students felt that the quality of teaching they experienced was ‘very good’ or ‘good’.

Social and pastoral aspects of the summer school experience

- 93.6% of student respondents rated the social aspects of the summer school experience as ‘very good’ or ‘good’.
- The social side of the summer school experience was highly valued by the students, and was regarded as an important part of the educational experience - 94.3% of respondents felt that it was important ‘to a great extent’ or ‘somewhat’ to socialise with like-minded peers.

- Students felt that one of the key features of the summer schools that underpinned their success in social terms was the wide social mix of the participants, in terms of age, sex, social class, ethnicity, and school type.
- Making new friends was a prominent aspect of the summer school experience for the overwhelming majority of students - 94.1% of respondents indicated that developing friendships at the summer school was important to them 'to a great extent' or 'somewhat'.
- There was a statistically significant difference in the popularity of the organised social activities between the seven sites where the organised activities were in the hands of the Residential Assistants (RAs), and at site D, where an outside body provided social activities; this was less popular.
- The students rated their interactions with the RAs very highly – with 93.2% rating this aspect of the summer school experience as 'very good' or 'good'.
- 93.1% felt that the support provided by the RAs was 'very good' or 'good'.
- Some site management staff and RAs noted that there were some areas of pastoral support that needed further development. In particular, some staff felt that there was not enough central, NAGTY, support available to them to help with students that had medical problems.

A successful and transferable model

- In 2005, two new university sites, G and H, offered NAGTY summer schools. The two new summer school sites delivered highly successful summer schools - over 98% of respondents at both sites felt that their summer school experience had been 'very worthwhile' or 'worthwhile'. This compared very favourably to the 99% of students at all sites who indicated that their summer school experience was 'very worthwhile' or 'worthwhile'.
- The new sites appeared to have benefited from the existence of a successful, established, and proven NAGTY summer school model.
- The NAGTY summer school model possessed a number of salient features which underpin the success of the model:

1. The student selection process, which drew gifted and talented students, aged from 11 to 16, from the NAGTY Student Academy.
2. The structure of the basic teaching team – lead academic, qualified teacher, and two teaching assistants. This created a well-resourced, flexible, and multi-faceted teaching team model for the strands.
3. The length of the summer schools, being two or three weeks, which allowed sufficient time for extended explorations of strand themes.
4. The residential nature of the programme – which enabled students to build strong friendships, and engage fully with all the academic and social opportunities available to them.
5. The university-based nature of the summer schools. This enabled students to gain access to personnel and facilities that they would not have otherwise come across.
6. The equal emphasis on academic and social activities, which allowed students to develop in an all-round fashion.

1 INTRODUCTION

1.1 The NAGTY Summer Schools, 2002-2005

During the summer of 2005, the National Academy for Gifted and Talented Youth (NAGTY) offered summer schools for its student members at eight universities throughout England. The host universities – of Warwick, York, Lancaster, Imperial College London, Christ Church College Canterbury, Durham, Bristol and Leeds – provided 53 courses, or strands. All of these strands lasted for two weeks, with the exception of those at the University of Warwick and Christ Church College Canterbury, which were of three weeks duration. Altogether, 1,000 students, between the ages of 11 and 16 attended the 2005 summer schools, which was the fourth year in which NAGTY had offered the experience to its student members. The pilot model, at the University of Warwick in 2002, offered five strands to 100 NAGTY students. Subsequent years saw the model developed by NAGTY at the University of Warwick rolled out across England, with five summer schools being offered in 2003, seven in 2004, and eight in 2005.

Throughout the 2002-2005 period the Centre for Educational Development Appraisal and Research (CEDAR) at the University of Warwick has conducted independent evaluations of the summer schools. The initial, 2002, evaluation encompassed the first talent search for the pilot summer school, as well as the evaluation of the summer school itself. The two following summer school evaluations, of 2003 and 2004, focused on similar aspects of the experience. The CEDAR report of the 2003 summer schools focused on the perceptions and views expressed by students, their parents, and strand leaders with regard to the teaching and learning, social and residential experience the students experienced at the summer schools. The 2004 evaluation also included the experiences and views of strand qualified teachers, teaching assistants, and the residential assistants (RAs). This wide scope was maintained during the 2005 evaluation, with the addition of a new focus on seven strands across five sites that had been identified by NAGTY as exemplars of good summer school practice. The separate report on these seven case study strands appears elsewhere (Cullen, Cullen, and Lindsay, 2005).

(In this report, the sites are identified only by a code letter – these were randomly allocated and do not mirror the alphabetical order of the site names. The code key has been given to NAGTY, in confidence, so that NAGTY may liase with individual sites about any site-specific issues, as it sees fit).

A successful model

CEDAR's evaluation of all the NAGTY Summer Schools has created a situation that enables some broader analyses and conclusions to be drawn than was hitherto possible. A considerable amount of both quantitative and qualitative data has been collected over the four years, which enables the CEDAR evaluation team to present here both an evaluation of the 2005 summer schools, and to provide a wider picture of the entire NAGTY summer school model. The summer schools have, since 2002, been extended from one pilot site for 100 students, to eight university sites catering for ten times the number of students. The findings of previous CEDAR evaluations, and those for 2005, show that the summer school model is sound, and that the basic structure of the model has proved to be successfully transferable. It is the intention of this report to expand upon this analysis, in respect of the summer school model as a whole, and with particular reference to the two new sites in 2005.

Report Overview

The report has been structured to focus on the features of the summer school model that have enabled the transferability of summer schools across England, while, at the same time, to provide details about the nature of the 2005 summer school experience. The report structure is as follows:

- The delivery of the summer schools on the 2005 sites, focusing on:
  - Teaching team recruitment and strand planning
  - Teaching and learning
  - Socialising
  - Pastoral care
- The key features of the NAGTY Summer School model, utilising the experience of the two new summer school sites in 2005 to illustrate the sound nature of the model, in addition to its transferability.

- Conclusions, presenting the 2005 experience in the context of the development of the NAGTY summer school model
- Appendix. Statistical data generated by the 2005 evaluation.

Methodology

The methodology adopted was a mixed methods approach, combining face-to-face interviews, questionnaires, and the use of relevant NAGTY and site-specific documentation. Not all sites were visited, and there was, this year, an additional focus on NAGTY-identified, exemplar strands; which have been reported upon separately (Cullen, Cullen, and Lindsay, 2005). As in 2004, a follow-up element has been included in the evaluation, with questionnaires being sent to all students and their parents, and, for the first time, teachers at the students' schools, in October 2005. Follow-up telephone interviews will also be conducted with summer school participants, late in 2005. The data, and analysis, from these questionnaires and telephone interviews, will be presented early in 2006.

Interviews

Interviews were held during the final week of the summer schools with a sample of members of the teaching team (lead academics and qualified teachers), students and residential assistants (RAs). At five sites – sites C, D, E, G, and H – staff and students from all strands (35 small groups in total) were interviewed, along with a sample of RAs at each site. At site B, only staff and students from one, exemplar, strand were interviewed, and no qualitative data were collected at sites A and F. Tailored interview schedules were designed for each interview type, focusing on background issues (e.g. the planning or application processes), teaching and learning, socialising, and residential issues. The same basic schedules were also utilised for the seven exemplar strand case studies, except that in these cases there was a greater emphasis on teaching and learning aspects of the summer schools. The exemplar strand interviews were longer, by around 10-15 minutes, than the other interviews. This enabled the additional information needed for the case study report to be generated, without any loss of data regarding the overall evaluation. As a result, the data gathered from the case study interviews were entirely compatible with the data gathered from the other strand interviews, and have been incorporated into this report.

At the five sites visited, plus the single strand at site B, the students were chosen randomly, but an overall mix of sexes, ages, and ethnicity was ensured All parents of students selected were contacted for consent purposes, and only the students whose parents/guardians consented were interviewed. With three exceptions, all the students invited to participate in the small group interviews did so. In addition, for every strand participating in the evaluation, the academic team leader, and the qualified teacher (or equivalents) were interviewed. Finally, at the five main sites, small groups of RAs (from four to six RAs per site) were also interviewed.

Figure 1.1 Interviews Conducted

- 35 interviews with strand leaders/lead academics
- 35 interviews with qualified teachers/qualified teacher equivalents
- 35 interviews with small groups of students
- 5 interviews with small groups of RAs
- 110 interviews in total

Questionnaires

All students attending all summer schools, including those at sites A and F, received a questionnaire during their last week at summer school. With the exception of the site A students (who received their questionnaires at their home addresses via the post), all the questionnaires were delivered and collected by CEDAR fieldworkers. The students completed the questionnaires individually, and were asked not to confer with peers. The overall response rate was 89%, with the total N completed and returned per site being: G = 119, H = 130, E = 133, D = 111, F = 79, B = 103, C = 139, A = 78; total completed and returned N = 892.

In order to gain some data about the longer term impact of the summer schools, three additional sets of questionnaires were sent out in October 2005, one to all students, one to their parents/guardians, and one to Gifted and Talented co-ordinators in the students' schools, with a request for the most appropriate teacher to be asked to complete the questionnaire about the NAGTY summer school student/s. A separate report will be presented in February 2006.

Documentary evidence

Additional documentary evidence was gathered, wherever possible, by the CEDAR team. This evidence included all relevant NAGTY documentation, such as the handbooks for site directors, site managers, academic and residential staff, and reporting guidelines on student achievement. In addition, CEDAR fieldworkers collected any strand or site specific documentation, for example, strand planning documents, timetables, worksheets, strand overviews, and visit documentation.

Demographic information about the students

The students who responded to the end of summer school questionnaire provided some demographic information about themselves. This is summarised in Figure 1.2.

Figure 1.2 Characteristics of students responding to the end of summer school questionnaire

Sex

- 47.6% (N = 425)were male respondents
- 52.3% (N = 467) were female respondents
- Total N of respondents = 892

Type of school attended

- Between 80 and 90% of respondents at different sites attended state schools
- Between 10 and 20% of respondents came from the independent sector

Disability or special needs

- Between 3-8% of respondents stated that they had a Special Educational Need (SEN)

Attendance at previous NAGTY Summer School

- 28% of respondents had attended a previous NAGTY Summer School

Data Analysis

1.4.1. Qualitative data

The qualitative interview data were analysed thematically, building on the questions laid out in the interview schedules, with additional themes and issues added as these arose. Around a quarter of all the interviews were transcribed and analysed using the qualitative analysis computer package, NVivo. The remaining interviews were listened to again, and the views expressed in them noted and summed, mainly within the existing thematic categories. A small number of new themes were added at this stage of analysis, and additional interview data was transcribed to provide further evidence.

1.4.2 Quantitative data

All the numerical data collected via questionnaires were entered in SPSS (Statistical Package for the Social Sciences) and analysed via the application of descriptive statistics (frequencies / percentages), and further analysis to investigate whether there were statistically significant differences between the students' views at different sites overall using one-way analysis of variance (ANOVA). Sheffe post hoc tests were then used to explore where any significant differences lay, i.e. between which sites. The main purpose was to examine the presence of any difference between the two new sites and the established sites.

Summary of key points from Chapter 1

- From their inception in 2002, the NAGTY Summer Schools have grown from one pilot site for 100 students, to eight university sites for 1,000 students.
- CEDAR has undertaken independent evaluations of all the NAGTY Summer Schools, 2002-2005. As a result, a substantial data base of qualitative and quantitative data concerning the NAGTY Summer Schools has been created.
- The CEDAR evaluation data from 2002-2005 enables some overall conclusions to be made about the NAGTY Summer School model. It is, essentially, a highly successful and transferable model.

- This report has two key aims: i) to present an overview of the 2005 Summer School, with a particular focus on summer school delivery; ii) to examine the key features of the NAGTY Summer School model, with particular reference to its implementation at two new university sites in 2005.

2. OVERVIEW OF 2005

2.1 Introduction

The three previous annual CEDAR evaluations of the NAGTY summer schools, taken in conjunction with the findings of the 2005 summer school evaluation, enable the key features and characteristics of the NAGTY summer school model to be identified and described. As indicated in the 2004 evaluation report (Cullen, Cullen and Lindsay, 2005), the model is overwhelmingly successful, and is one that has shown a high degree of transferability. With reference to the 2004 summer schools, the CEDAR team concluded that:

> 'NAGTY and the seven host sites were very successful in delivering high quality summer school experiences to over a thousand NAGTY members, aged 11 to 16. At the end of their summer school, 96% of students stated that the experience had been *'very worthwhile'* or *'worthwhile'*. When asked the same question after a half term back in school, this figure rose to 99% of respondents. This is an exceptionally high level of positive endorsement of the NAGTY summer school experience'.
> (Cullen, Cullen and Lindsay, 2005, p.165)

This 'exceptionally high level of positive endorsement' is a result of a number of key factors that characterise the *delivery* of the model, and were in 2005, as in previous years, present throughout the summer school system. These characteristics relate to the three core features of the NAGTY summer school delivery – teaching and learning, social activities and socialising, and the pastoral care structure. With reference to the experience of the fully-developed model, as presented in the summer of 2004 (the 2003 summer schools being the multi-site pilot, and the 2002 summer school, at the University of Warwick, being the initial pilot), and the experience of the 2005 summer schools, it can be seen that NAGTY and the summer school sites have developed a sound model fit for purpose.

2.2 Teaching team recruitment and strand planning

A variety of recruitment and staffing mechanisms were used to create the summer school teaching teams. These varied, in 2005, as before, from junior members of academic staff being 'volunteered' for the position of strand leader by their departments, to staff who had been involved in the summer schools from the outset, and who felt that they had long-term ownership of the summer school strand programme. In addition, whereas some strands were staffed throughout the summer school by a small team consisting of an academic, qualified teacher, and teaching assistants, other strands were characterised by the involvement of a large number of academic staff, typically contributing one or two sessions at most. This aspect of the summer school experience exhibited the widest variation of all the features of summer school presentation across the various sites. Nonetheless, it is possible to identify the strengths and weaknesses of the different approaches to staffing.

Strand planning offered less variety than strand staffing. In 2005, as in previous years, evidence emerged of effective planning practice, along with examples of difficulties caused by less effective planning. The salient features of good, and less effective, planning have remained constant, and it is clear that advanced preparation, early staff recruitment, good staff communication, and flexible strand structures are essential to the task.

2.2.1 Teaching team recruitment

The typical strand teaching team was composed of a strand leader, usually an academic from the host university department, a qualified teacher, or where necessary, a qualified teacher equivalent, along with two teaching assistants, often doctoral students. There were variations to this structure, for example, site D summer school was in 2005, as previously, run, on behalf of the college by a private educational body. It staffed some of the strands with its own personnel, as opposed to academics from the college. Other strands, creative writing and drama strands, for instance, for course specific reasons, drew their teaching staff from a wider background, while some teaching assistants were non-doctoral, post-graduate students.

The recruitment of strand leaders varied. In some cases, junior members of university departments felt that they were being offered the task in a way that,

perhaps, made their acceptance fairly certain. One strand leader of a 2005 summer school strand noted that he had a temporary fellowship in his department. He expected to progress to a tenured post in the near future, and had been approached directly by his department head to organise the summer school. He was asked by the CEDAR fieldworker if he had felt that he could have refused the offer:

> 'Well I could have said it [no], but it was quite obvious that it would be good for me, for the department, for the university, and I was just, I think, the first choice in the department […] We have just opened [subject title] studies, and I want to use every opportunity I can to promote [it], and I thought that might be a good opportunity.'

There seemed, in this case, to be a element of compulsion, but that meshed with a sense of self-interest, and enthusiasm for the strand leader's particular academic interests. By contrast, some of the strand teams have been together for a number of years, and were led, and staffed, by team members who felt that they had a strong contribution to make to the entire summer school programme, and, sometimes, beyond. Two examples of this, encountered in both the 2004 and 2005 evaluation, highlight the existence of strand leaders, and teams, that have taken advantage of the freedom of the summer school model to create courses that focus on the particular needs of the NAGTY students and the unique nature of the NAGTY summer school experience. One strand leader, whose strand has been running since the summer of 2003, noted, in 2005, that the summer school format enabled him to provide an educational experience that focused more on processes, than on content – something that, in his view dominated most formal education:

> 'I suppose we [have…] this unease about the [mix] between the process and content, but, I suppose, I'm more focussing on process here than content. There's no way we could pretend to get very far to debate about [subject title…] we take them as far as they can cope with, or we will let them take us as far as they can cope with, but it is to do, it is much more to do with …about how to argue, how to work in a group.'

Another strand that has run for three years, under the same strand leader, and with a high degree of continuity in the teaching team, has used the opportunity provided by the NAGTY summer schools to create a computer-based learning package to further the teaching and learning of the subject in other outreach, and school situations, with

hopes of the adoption of parts of the package at university level. This strand leader is extremely positive about the opportunity created by the NAGTY summer school scheme, and displays a very high level of ownership of his strand.

Although some strand leaders appear to have been co-opted into the programme by department heads, while others have vigorously pursued the venture from the outset, there was no evidence that the differing routes to strand leadership impacted in any significantly different fashion upon the outputs of the differing strands. It was the case that those academics involved in strand leadership typically offered a high degree of commitment to the summer school project as a whole.

The recruitment of qualified teachers overwhelmingly relied upon the personal contacts of academic strand leaders, and networks, often with links to university departments. There were problems associated with these essentially informal methods of teacher recruitment, not least that teachers were often recruited late in the year, sometimes being appointed only in the weeks just prior to the start of the summer schools. Some strand leaders acknowledged that they found it difficult to recruit teachers, primarily because they were not linked in any way to teaching networks. University departments that were involved in outreach work among secondary schools, or in the provision of master classes, often found it less difficult to recruit qualified teachers, but, overall, there was no established mechanism in place that enabled academic strand leaders to draw upon a pool of qualified teachers.

2.2.2 *Teaching team numbers*

Although the basic teaching team was made up of four members – academic strand leader, qualified teacher, and two teaching assistants – there were differing patterns of additional teaching involvement. Some strands were run by the basic team alone, although often with a small number of guest speakers from outside the university, for example, a writer; or the use of professional external knowledge, in the form, for instance, of museum staff. An alternative model was the use of a large number of academic staff from the host university department, each contributing one or two sessions. Both these models had strengths and weaknesses, and both proved successful.

The key strength of the basic model was that it helped guarantee continuity throughout the life of the strand. One academic, who has worked for three summer

schools with the same team, said that, “It’s not that I’m saying I couldn’t do it with other people, but it just feels peculiarly right with these people”. The central weakness of this model was that it placed a heavy workload on the academic, diverting time, in terms of preparation and delivery, from research and writing time in the key summer period for these activities. This point was noted by one academic, who commented:

> 'Well, it’s difficult, especially as a new academic, writing is a priority of course [and] the research period, so eating up eight percent of your year [his calculation of time spent on the summer school], when 40 per cent of the rest of the year was supposed to be for research, but that eight per cent cuts into it, so that’s less than ideal, but this is the way it was decided.'

In this particular case, the impact on research and writing time was lessened as the strand leader only acted as leader for one summer school, after spending the previous summer school shadowing the previous strand leader.

The alternative approach drew upon as large a number of academics as possible, something which had eased the recruitment of academics to the summer school project within university departments. In some cases, this approach had been extended by the creation of inter-disciplinary strands, primarily for staffing reasons. One strand leader in charge of such a strand noted that:

> 'There were a lot of separate things [why an interdisciplinary approach was chosen]. One of them was the sheer difficulty I thought there would be in getting enough people together from one department for two weeks in the middle of summer, when they would be off to conferences, doing research, or having family holidays, so that I thought that the load on any individual would be much smaller if four, and, indeed, originally, five departments were involved. I thought that, simply from a practical point of view, it would be a good idea.'

The main, potential, drawback of this approach was the scope for the coherence of the strand to be undermined, as a relatively large number of staff became involved. This can also have implications for the development of student-staff relations if the students were presented with a stream of different academics. Some strands sought

to counter this potential problem by ensuring that the core strand teaching team were also present, in addition to individual academics.

2.2.3 Planning

A number of essential features of the planning process have emerged over the four years of the summer school programme. Good planning has facilitated the successful delivery of summer school strands. This depends on a small number of key planning points:

- that the planning process begins months before the start of the summer school
- that staff are recruited early, and fully briefed in good time for the start of the strand
- that a clear framework for the entire strand is created, but a framework that is open enough for a variety of options to be implemented.

Some strands were, for a variety of reasons, late in beginning the planning process. As a result, recruitment problems were exacerbated, and the scope of the strands were limited, which, in turn, had an impact upon the overall experience being offered to the NAGTY students. One strand qualified teacher was recruited to the strand not long before it was about to begin, was unclear about her role, and discovered that little planning had been undertaken. Further, there was no full team meeting until one week prior to the start of the summer school, which was when planning began in earnest. The qualified teacher was asked about the amount of induction and guidance she received, and she replied:

> 'None. Nothing whatsoever. Basically, because it was the end of term [when she was recruited], and I was doing my own production, I said, 'I cannot meet with everyone that is supposed to be involved with this until these certain dates'. The date when people did meet together was the 1st August. Until the 1st August there was nothing in place at all […] I was more confused, you know, 'am I supposed to be doing this?' And the message got back to me that I was not supposed to be organising it, but that's what seemed to be happening, because the academics back at the university seemed not to be involved. People had their names to it, but were unwilling to be involved.'

This qualified teacher said that she would be willing to be involved again, if, in future years, planning began at least six months in advance. Despite these problems on this strand, the students were positive about their experience. In contrast to these planning problems, most strands began the planning process well in advance of course presentation, and developed flexible approaches that underpinned the successful presentation of strands.

Successful course planning depended on three factors:

- early planning
- the development of an outline framework
- the provision for a variety of options to be pursued within that framework.

One highly successful 2005 strand leader noted that, *'the programme itself was devised, in outline, about nine months ago'*, and this appears to be the correct approach to the planning process. Within that outline, the plan envisaged the creation of a number of differing routes that the strand could follow. This enabled the strand teaching team to respond to the developing interests of students on the strand. As a result, the strand team, as was the case with many strands, had a resource bank that was far larger than the minimum that would have been needed. As another 2005 strand leader noted:

> 'It's [the resource bank] gradually built up, so there's lots of things on the computer which can be modified and brought out […] Then you have a range of things you can use. So, we've only got, what, four days left this week, but, we've got at least several weeks' worth of possibilities without struggling or thinking about it.'

The creation of such resource banks provided the potential for flexibility within an overall framework, and was a key to ensuring a good academic experience for NAGTY summer school students.

2.3 Teaching and Learning

Data for the teaching and learning experience came from four sources. Quantitative data was drawn from the end of summer school questionnaires completed by the students, while qualitative data was produced by the interviews with students, strand leaders and qualified teachers.

2.3.1 *The teaching and learning experience: views of the strand teams and the students*

Typically, all members of the strand teaching teams found teaching on the summer schools to be a rewarding and, often, exciting experience. Representative remarks, by two members of the 2004 summer schools, illustrate this:

> 'While it's exhausting, it's also very rewarding […], and I've gotten quite a lot out of it.' (an academic)

> 'It has been valuable in that I've enjoyed it. I've enjoyed the history […] probably what I've got out of it the most is talking about history for the entire day at quite a high level.' (a qualified teacher)

The key features of the successful strand teaching and learning model are clear, and well-established, in the summer schools. These features include:

- the creation of a relaxed environment
- enjoyable activities
- variety
- a mixture of staff directed, and student-led activities

A common aim among strand leaders was to create a relaxed, and enjoyable atmosphere – *"we started from the position that it should be enjoyable for them",* said one strand leader. There was a realisation that although the students were gifted and talented, and had volunteered for the summer schools, it was still the summer holiday period for the young people. Furthermore, strand leaders recognised, or quickly appreciated, that the overwhelming majority of students were engaged and very keen

to learn, and that enthusiasm for education was a central characteristic of the NAGTY students. In consequence, the atmosphere in almost all strands was different from that typically experienced in schools. One qualified teacher noted how the differing context of the summer school, compared with her experience of school, enabled a good teaching and learning experience for the NAGTY students:

> 'In comparison to school, it is a completely different kettle of fish, different atmosphere, more inquisitive, more question and answer skills are involved, and, yes, it is a more encouraging atmosphere compared with school, because they have got time to pay attention to these children, as opposed to school when you have got the ones on the worst behaviour, and you have to focus on them more, and they [the gifted and talented students] do tend to get neglected.'

A student's view of the same points, involved a clear appreciation of the differing contexts and constraints between school and the summer school:

> 'At school, there is a set course, and the teachers have to get through that, and there are exams at the end, whereas here, we can go off the subject and look at something else, and I think one of the main points of this course that is different from school, is that it is all about asking questions. The people that have been teaching us have given us a lot of answers to questions, but it really has been about raising questions, and arguing about what we've been taught. Because, at school it is sort of […] we have to take what you see in textbooks as correct, whereas here they are showing us all different types of sources and asking us if it all makes sense, and if it all adds up.'

The students commented frequently on how friendly and relaxed they found the classes, noting that *"it isn't like school"* and that they appreciated being treated in a different way from which they were often treated in school:

> 'I think they [the staff] are very friendly, and they're very, I mean, if you, unintentionally, like, interrupt someone, which happens to me sometimes [laughter], which I'm embarrassed about but, they don't really tell you off, or something, they really try to be calm and accept everything.'

> 'They do treat us, like, much more adult and that kind of stuff.'

'They [the teaching team] just talk to you, [but] at school they just shout at you, basically. And they just talk to you [here] like a normal human being.'

'And they're not strict [at the summer school], like saying, 'Don't talk!', and 'Silence!', and everything.'

The most successful strands appreciated the need for variety throughout the summer school. Variety was seen by many strand leaders as the key to providing an enjoyable and successful learning experience. Variety meant different activities, different session leaders, the use of different teaching techniques, delivery based on short time periods, and the inclusion, where possible, of off-site events and experiences.

The strands were organised on the basis of whole teaching days, from 09:00 to 16:00, with statutory breaks. However, many strand leaders appreciated that long sessions of a single activity were unlikely to be successful, although some strands did utilise, for example, one hour (and, occasionally longer) lectures. These were not generally welcomed by students, but the practice of breaking activities into shorter bursts was. One academic explained how he had adapted his normal teaching style:

'Well, it is different. I've tried to, I, personally, have tried to break up sessions, so that they are doing things at quarter of an hour intervals, and for ten minutes at a time, and I ask them more questions than I ask undergraduates, and they are much more responsive, incidentally, and they will break in and ask questions, which I very happy with.'

Other strand leaders talked about varying teaching styles in bigger blocks, with reference to providing a number of different teachers and lecturers, as opposed to breaking down the bigger sessions into smaller units. One strand leader of an interdisciplinary course remarked:

'I think the kids appreciate the variety this way. The maths, the way we have done it, is old fashioned chalk and talk. In the physics they have had a lot of different activities […] and in science they will be doing experiments in groups, and in [further subject] as well, so there's different kinds of activity. We're also doing an off-site visit as well.'

The qualified teachers also noted the degree to which variety ensured the engagement of the students, and helped build successful strands:

> 'In terms of teaching styles and learning styles, I think there has been a variety of sessions, starting from […] that has been very interactive, a lot of quizzes, a lot of assessment, which has been very rewarding for the kids […] and the [other] end of it was very theoretical, so it was a different experience […] and now we are moving onto chemistry, and that's more interactive, and participation.'

There was some reflection of this analysis in the students' end of summer school questionnaire, when they were asked to evaluate the appropriateness of teaching methods:

Table 2.1 How would you rate the choice of your chosen subject in terms of: Appropriateness of teaching methods used

	Frequency	%
Very good	419	47.0
Good	379	42.5
Acceptable	84	9.4
Poor	10	1.1
Total	892	

That nearly 98.9% per cent of student respondents, with 89.5% rating them good or very good, felt that the teaching methods on the strands were appropriate is a notable result.

When asked to compare their normal experience of schooling with the summer school experience, the students frequently commented on the degree to which the summer school learning experience was more interactive, something that they warmly welcomed. Interactive activities were frequently those that were student led, something that was also popular with students. Interactive activities covered a very wide range of activities, from hands-on experiments, the handling of museum artefacts or archive documents, to small group and whole group discussion and debate. In a post-summer school report that one student wrote on returning to his

school (which was passed on to CEDAR by his class teacher), he wrote of his excitement at making model rockets in small groups:

> 'The most thrilling part of the course was when we made rockets. These weren't ordinary ones that you get in shops because once launched the rocket was so powerful it looked like the tip of it was touching the sky. The speed was so great it sent a thrill through you and one of the rockets which was launched along with mine and my partner's ended up on top of one of the buildings. When we were first introduced to this course, Dr [X] said that we were going to be some of the very few people in the world who were going to use them. He was talking about fuel cells and during the course we made our own fuel cell which worked perfectly well.'

This student also commented very favourably on more theoretical aspects of the strand that he attended, and the end of strand student questionnaires also indicate that the overwhelming majority, some 87.9%, felt that there was a 'good' or 'very good' balance between theoretical and practical learning.

Figure 2.2 How would you rate the choice of your chosen subjects in terms of: Balance between theory and practical examples

	Frequency	%
Very good	394	44.3
Good	388	43.6
Acceptable	86	9.7
Poor	18	2.0
Very poor	4	0.4
N=	890	

Students were also enthusiastic about small group and whole group work, and especially with student-led discussion in this format. Although the overall topic was often set by the teaching team, the direction of the discussions and debates was frequently set by the students. Learning from peers was a highly valued aspect of the summer school experience, and, in the end of summer school questionnaire, 87.1% of respondents agreed that they had been able to learn from their peers 'to a great extent', or 'somewhat':

Figure 2.3 To what extent did the academic side of the Summer School help you in terms of:
Enabling you to share with, and learn from your peers

	Frequency	%
To a great extent	485	54.5
Somewhat	290	32.6
Slightly	103	11.6
Not at all	12	1.3
N =	890	

This sense of intellectual freedom, challenge and excitement was also apparent in the interviews conducted with students:

> 'There's a lot more discussion and sitting in a circle [on the strand, as opposed to school], so you can, like, all say your views, and that kind of thing.'

> 'There's more talking between the students rather than it focussed around the teacher.'

> 'You're trying to learn from other people, and it's less about learning knowledge from a teacher, it's more about learning knowledge from other people [i.e. students].'

> 'And then we had to discuss it, and, of course, it was quite interesting, not only because of the things we were using to decide, but, also, the way we did it. Because they [the staff] literally just sat there, and it was quite interesting watching how we organise ourselves, which was quite a clever thing. So we got [to see…] how we discussed, and what we discussed. So, afterwards, we picked up some of the topics, like leadership, and what's right and wrong, I think.'

The characteristic approach of the strand teaching teams to teaching and learning, combined with the NAGTY students' willingness to learn, produced a very high degree of satisfaction with all aspects of teaching and learning on the summer schools. The end of summer school questionnaire data provided further evidence of this, with very high levels of satisfaction being indicated with reference to two key areas - the levels of challenge experienced by students, and the quality of teaching.

Figure 2.4 How would you rate the choice of your chosen subject in terms of: Level of challenge you experienced by the material

	Frequency	%
Very appropriate	335	37.6
Appropriate	436	48.9
Acceptable	96	10.8
Inappropriate	21	2.4
Very inappropriate	3	0.3
N =	891	

Some 86.5% per cent of the student respondents felt that they had experienced a 'very appropriate' or 'appropriate' level of challenge. Even higher levels of approval, in the order of 93.8% of respondents, were shown for the quality of teaching, seeing it as 'very good' or 'good'.

Figure 2.5 How would you rate the choice of your chosen subjects in terms of: Quality of teaching

	Frequency	%
Very good	564	63.4
Good	270	30.4
Acceptable	50	5.6
Poor	4	0.4
Very poor	1	0.1
N=	889	

2.4 The social side of the summer school experience

All the CEDAR evaluations of the NAGTY Summer Schools have shown that, for the overwhelming majority of students, the social experience of summer school attendance is very highly rated. In 2004, for example, 90% of respondents (some 968 students) to the end of summer school questionnaire indicated that they felt that the social aspects of the summer school were 'very good', or 'good'. This level of approval was even greater for 2005 summer school, with 93.6% of respondents to the end of summer school questionnaire rating their social experience as 'very good' or 'good'.

Figure 2.6 Overall, how would you rate the social aspects of the Summer School?

	Frequency	%
Very good	536	60.4
Good	295	33.2
Acceptable	41	4.6
Poor	11	1.2
Very poor	5	0.6
N =	888	

In the interviews, a large majority of students indicated that they found the summer schools provided a very friendly atmosphere, which enabled them to make friends easily. Being with like-minded people was an aspect that most of the interviewed students were keen to stress as a notable aspect of the summer school experience. They also felt that the wide social, geographic and ethnic mix of the summer schools was a positive feature, and one that they valued. In addition, the students were keen to stress that they often felt that they had *"made friends for life".* All these aspects of socialising and friendship making were prominent findings of earlier summer school evaluations, and now appear to be established characteristics of NAGTY summer schools.

2.4.1. Being with like-minded peers, and making friends

The evidence gleaned from the interviews, and the end of summer school questionnaires, indicated that the students valued the chance to spend two or three weeks with large numbers of people that they regarded as being 'like-minded' in terms of interests, both academic and non-academic, and attitudes to education. The questionnaire data showed that 94.3% of respondents felt that it was important 'to a great extent' or 'somewhat' to socialise with like-minded peers on the summer schools.

Figure 2.7 To what extent were the following social aspects important to you personally? a) Socialising with like-minded peers

	Frequency	%
To a great extent	631	71.0
Somewhat	207	23.3
Slightly	38	4.3
Not at all	13	1.5
N=	889	

Many of the students made a connection between being with like-minded peers, and the accepting and tolerant atmosphere that they felt characterised the summer schools. To some extent, they felt that this was a result of the fact that all the students were academically able:

> 'I think it is definitely important that you're taking that top group [the NAGTY students], because [in that] group there would be a common interest, and naturally more affinity between them.'

> 'We are surrounded by people who are at the same standards intellectually. We have something in common, whereas in school it feels like you are intelligent but you do not talk about the things you are interested in.'

> 'Everyone's kind of accepted here, whereas at school you've got people looking down on other people, and stuff, and you'd have like bullying and people … you know, all the usual stuff that goes on at school, whereas, here,

it’s like everyone’s just accepted, and everyone’s just nice to everyone even though everyone’s really, really different.'

The fact that *"everyone’s really, really different"* was also seen to be a positive aspect of the summer school experience, with over 91% of respondents to the end of summer school questionnaire thinking that the wide social mix of the summer schools was important, either ‘to a great extent’, or ‘somewhat’.

Figure 2.8 To what extent were the following social aspects important to you personally? b) The wide social mix (e.g. ages, of sex, of social class, of ethnicity, of schools)

	Frequency	%
To a great extent	551	62.2
Somewhat	256	28.9
Slightly	59	6.7
Not at all	20	2.3
N=	886	

Student interviewees frequently commented on how much they enjoyed meeting students from other parts of England, and seemed to feel that there were noticeable regional differences that they enjoyed finding out about. Children who were educated at single sex schools also frequently commented on the mixed nature of the summer schools, sometimes with the happy information that they had ‘got’ a boy/girl friend as a result.

As in previous years, many of the summer school students found that they quickly made close friendships, that they felt would probably last beyond the life of the summer school, despite the geographic spread of the students. The end of summer school questionnaire results indicated that 94.1% of respondents felt that they had made friendships that they felt could continue after the summer school.

Figure 2.9 To what extent were the following social aspects important to you personally? d) Developing friendships that may continue after the summer school

	Frequency	%
To a great extent	659	74.1
Somewhat	178	20.0
Slightly	45	5.1
Not at all	889	0.8
N=	892	

Interview evidence gleaned over the period 2003-2005 from summer school returnees seems to indicate that summer school friendships do last. NAGTY students keep in contact with each by internet messaging, the NAGTY bulletin board, telephone contact, texting, and, in some cases reunions organised by the students themselves. It may well be that an informal, and flourishing, network of NAGTY summer school students has been established by the students, providing a friendship and support system for those gifted and talented children.

With the exception of one site, the Residential Assistants (RAs) were responsible for providing a social programme for the children in the evenings and at the weekend(s). The one site, D, that did not choose to follow this path contracted out the social programme to a private firm specialising in extra-curricular provision. The RAs provided a very wide range of sporting, intellectual, and social activities. These social activities were popular with the students, with around 90% of the questionnaire respondents indicating that they felt that it was important to take part in the social activities.

2.10 To what extent were the following social aspects important to you personally? c) Taking part in social activities

	Frequency	%
To a great extent	473	53.3
Somewhat	327	36.8
Slightly	75	8.4
Not at all	13	1.5
N=	892	

The variety of evening and weekend social activities, the fact that the summer schools were residential, and the various opportunities to mix with different students, all contributed to enabling the students to meet as many of their peers as possible, and, hence, make valuable friendships. As one student commented:

> 'I've made like lots of friends from [his strand], and, like, the night time activities that we're doing, [and] just occasionally bumped into someone, and then just started talking or whatever, so I've made a lot of friends. And, also, the fact that we have our corridor group, and our RA group, which is like mixed sex, as well, I mean, it isn't mixed sex in the corridor and…I've made a variety of different friends.'

The summer schools therefore provided a variety of forums, and an effective mix of young people, that facilitated the making of friendships in a supportive and relaxed environment.

2.5 Pastoral care

The basic framework for the pastoral care of the summer school students was provided by the RA groups. Each student was assigned to an RA group, led by a Residential Assistant, who was typically, though not necessarily, an undergraduate or recent graduate, often of the university in question. Further pastoral support and leadership was provided by the site managers. The students overwhelmingly reported that they had good relations with the RAs, whom they frequently described as *"being like friends"*, or like older siblings. This was in keeping with the experience of previous summer schools, where the student-RA relations have been very good. The student interviewees felt that the RAs were approachable, friendly, and very concerned with their welfare. In response to the end of summer school questionnaire, over 90% of respondents indicated that they were happy with their residential assistants, and with the support that they provided:

Figure 2.11 How would you rate the following aspects of the residential programme? C) Informal interactions with residential assistants (RAs)

	Frequency	%
Very good	575	64.8
Good	252	28.4
Acceptable	48	5.4
Poor	11	1.2
Very poor	2	0.2
N=	888	

One student encapsulated the degree to which she and her peers felt at ease with the RAs, saying:

> 'The rule of thumb for me is, that you know you're in the right place, when your RA addresses you, when your RA greets you with, "Yo, Yo!", rather than, "Hello".'

Figure 2.12 How would you rate the following aspects of the residential programme? d) Support provided by residential assistants (RAs)

	Frequency	%
Very good	567	63.9
Good	259	29.2
Acceptable	49	5.5
Poor	10	1.1
Very poor	3	0.3
N=	888	

As in previous years, student interviewees complained about what they saw as the excessive number of rules which governed their activities outside the classroom. In particular, they often complained about being escorted everywhere by the RAs, and older students were often unhappy about rules about bed times, and 'lights out'. Nonetheless, the students were aware that there were reasons for the high level of regulation and control, and that it was a result of safety concerns, especially on open-campus university sites. Further, the restrictions were only of a minor nature in

comparison with the overall summer school experience. A representative reflection on this came from one student interviewee:

> 'It does sort of bring back memories of primary school, you know, ‘On the first whistle you will all stand still, on the second whistle you will form an orderly line’. It’s not nearly as bad and as patronising as that, but, you know, I’ve noticed how my freedom is slightly restricted. But I’m willing to overlook that because I’m having such a great time here.'

2.5.1 Issues relating to pastoral care

On three of the sites visited by CEDAR fieldworkers important issues regarding pastoral care problems were raised by RAs, or by site managers. The latter group were not included in the interview process, but spoke to the CEDAR fieldworkers on an informal basis about these issues. Three particular cases highlighted problems in terms of the perceived lack of support for the pastoral care staff. There was also some confusion as to who should provide this support, as revealed by the comments of the NAGTY Programme Director.

In one case, an RA felt that he did not have the knowledge, training, or support to cope with a member of his RA group who had Tourette’s Syndrome. As a result, the RA felt that he was struggling to cope, and that he had quickly become exhausted as he was attempting to look after the RA group as a whole, while having to spend a great deal of time with the Tourette’s sufferer. This problem of a lack of training and support was also manifest in the case of an RA who had to provide support for a student with autism, whose behaviour was, at times, very difficult to manage. This RA commented:

> '[He] was an incredible young man, but I do not feel that I have the experience to be able to cope effectively with his disorder, whilst still giving everything to the group as a whole. I would need considerably more support from someone who knew what they were doing if I were to take this on again.'

For this RA, the struggle to cope with his RA group and the autistic student meant that, *"I was extremely tired by the end of day three, and as a result physically and mentally suffering to some extent".* Overall, the impact of being unsupported meant

that, although he felt the experience was rewarding, *"the whole experience left me feeling mentally exhausted and physically under the weather for a number of weeks".*

An additional, though different, case was raised by a site manager, whose Senior RA had reported that one of the students had exhibited unusual behaviour that required attention. The site manager and the Senior RA were unsure if the problem was associated with a physical or psychological medical problem. The site manager telephoned the NAGTY nurse, based at Warwick, and was assured that the problem was not the manifestation of a physical condition. However, that did not provide the site manager, or the Senior RA, with the support and advice that they felt that they, and the student, needed. In essence, they were left to deal with the problem on the basis of their own best judgements. This lack of support concerning children with psychological issues was also raised by another site management team, who said that they would like to be in a position where they could have telephone access to such support and advice.

The NAGTY Programme Director reported that this year NAGTY had employed a nurse who had visited each site prior to the summer school. She had developed a support pack which was left at each site. In addition, each site had been expected as part of its contract and conditions for running a summer school to provide on-site welfare support. It had been recognised that a distant nursing professional could not deal with many of the local, and often immediate issues that might arise, and sites were encouraged to employ their own nursing professional, although they weren't obliged to do so.

However, the NAGTY nurse was available to provide telephone advice and the lack of support reported by the site manager above had been noted as a procedural error.

Hence, there appears to have been a lack of awareness by some summer school staff of the arrangements for nursing support provided by NAGTY centrally and the summer school itself. Beyond this, it may have been that, given the particular psychological support needed by some children, the provision of a generic site-based nurse might have been insufficient for more complex needs. We recommend that NAGTY review this for 2006.

2.6 Inter-site differences

Analysis of the questionnaire data indicates that there were some small, but statistically significant, differences between sites. In particular, there were two areas, involving two sites, D and E, that showed differences in terms of the social aspects, and some elements of teaching and learning respectively.

Site D exhibited statistically significantly less satisfaction with the social programme. In particular, site D, had relatively low scores in terms of the social aspects of the summer school experience, the importance that the students attached to socialising with like-minded peers, or, indeed, taking part in social activities. In relation to these findings, it might, perhaps, be of some relevance that at site D, the Residential Assistants were not in charge of the social programme, which was, instead, contracted out to an external body.

Site E exhibited statistically significantly less satisfaction among respondents with aspects of teaching and learning. The site had relatively poor responses in terms of the balance between theory and practice, the level of challenge of strand material, the quality of teaching, and the appropriateness of teaching methods.

Although sites D and E, therefore, exhibited some statistically significant differences in comparison to the other sites, in terms of the social side, and the teaching and learning aspects of the summer school respectively, it is important to stress that these differences were very small within the overall picture of high rates of approval, and indeed although the mean ratings were lower they were still positive, albeit only just.

Summary of key points from Chapter 2

- Successive CEDAR evaluations of the summer schools indicate that a very high level of positive endorsement of the experience, in the order of 96-98% in 2005, for example, characterises student reactions to the summer schools.
- Successful summer school delivery is related to three core features – teaching and learning, social activities and socialising, and the pastoral care structure.

- There was variety in the recruitment methods used to create a teaching team for each strand. No one method of recruitment dominated, although the issue of continuity, both within the delivery of a single strand, and the delivery of that strand over a number of summers, was important.
- There were some problems with the recruitment of qualified teachers. Strand leaders sometimes felt that they did not have access to teacher networks that would have facilitated the recruitment of qualified teachers.
- Good strand planning depended upon an early start to the process (some six to nine months in advance), early team recruitment, and good communication between the strand leader and the teaching team. A small number of strands struggled in this respect.
- Good planning with reference to course content depended upon developing an outline structure that was designed, from the outset, to be flexible enough to respond to the students' developing interests. An extensive data base of course material frequently underpinned such flexibility.
- The four key features for successful teaching and learning depended upon:

    i) the creation of a friendly and relaxed environment
    ii) enjoyable, interactive, activities
    iii) variety
    iv) a mixture of staff directed, and student-led activities

- The social side of the summer school experience is highly valued by the students, who enjoy being in a tolerant environment, with like-minded peers.
- Students feel that there is a good level of pastoral care available, and they value their contact with the Residential Assistants (RAs).
- There were concerns expressed by RAs and site managers that there was no support mechanism in place to help them provide support for students with additional needs. Cases involving autism, Asperger's Syndrome and psychological problems were raised by residential staff.

3. A TRANSFERABLE MODEL

Introduction

Two new sites, those at G and H, offered NAGTY summer schools in 2005. The summer school experiences at these sites was just as successful as that experienced at the established sites, with the end of summer school questionnaire responses indicating that over 98% of respondents at both sites felt that their summer school experience had been ‘very worthwhile’ or ‘worthwhile’; which was closely comparable to the 99% approval over all sites.

Figure 3.1 Overall, how worthwhile has the summer school experience been to you personally

	Site G %. n = 119	Site H%. n = 130	All sites%. n = 892
Very worthwhile	72.9	81.3	82.1
Worthwhile	25.4	18	17
Not very worthwhile	1.7	0.8	0.7
Not at all worthwhile	0	0	0.2

The qualitative data gathered at both new sites also indicated that there were no essential differences between the new sites and the established summer school sites. The new sites appear to have benefited from the existence of a successful and established NAGTY summer school model.

The NAGTY summer schools are not the only summer schools run at university sites, with many universities having, for example, their own outreach programmes which include summer school experiences. However, the NAGTY summer school model possesses a number of features that appear to underpin the success and the transferability of the model, something that was evidenced in 2005 at sites G and H. The salient features of the NAGTY summer school model are:

- The age range of students, from 11 to 16 years
- The student selection process
- The structure of the basic teaching team
- The length of the summer schools
- The residential nature of the summer schools
- The university-based nature of the programme
- The equal emphasis on academic and social activities

The intention here is to examine this model in the light of the two new, 2005, summer school sites, using experiences at sites G and H to illustrate how the model has been successfully transferred and implemented across sites.

3.2 The age range

NAGTY student members are eligible to attend a summer school between the ages of 11 and 16, i.e. Years 7-11 in the maintained school sector. Not all strands accepted students from this age range, with some strands, particularly in the sciences and mathematics, being more likely than others to increase the lower age, most typically to 14. There were two main reasons for this, firstly, some science strands felt that there were health and safety issues associated with laboratory work for younger students. Secondly, some science and mathematics strands wished to work with students who had a certain level of subject knowledge in order that university-level subject matter could be utilised in the summer schools.

In the two new summer school sites for 2005, there was a mixture of age ranges, with some strands taking children from the full Year 7 to Year 11 range, and others, largely sciences and mathematics, restricting entry. The issue here was, in the academics' eyes, one of matching a desire to deliver high-level courses (beyond that likely to be encountered at school) with the knowledge of different age groups. While there was a recognition that age, in itself, was not a barrier to mathematical understanding, or ability, the concern was that younger students would not have met key concepts necessary for university-level study. A strand leader at site G made this point in explaining why it had been decided that the age range for his strand would be limited to 14-16. He said that his intention was to undertake *"serious, difficult, university level mathematics"* with the students, and that they needed to be equipped with the necessary knowledge prior to embarking on the strand. This was a typical explanation given by academics at the new and old summer sites. Another strand at site G, involving mathematics, did accept younger students, which, in the view of the strand qualified teacher, caused some difficulties:

> 'I would have preferred only Year 10 or Year 11. Some Year 9s have struggled with the trigonometry.'

Restricting ages did not, however, entirely remove these issues, with some students on restricted age strands still, occasionally, finding lecturers going beyond what the students felt was entirely transparent to them. In one of the science strands at site G, the students who were interviewed said that one of their lecturers had gone *"too far, too fast, and too high",* and had assumed that they had background knowledge that they did not have. In part, this particular problem appeared to have resulted from reliance on traditional lecturing, rather than more interactive models of teaching and learning. Further, it was a common place among students and staff that, in many

strands across all the sites, younger students were often more forthcoming and frequently made incisive interventions. There was no sense that older students dominated classes, or social activities.

The entire summer school experience depended as much upon the residential, social, and personal aspects as it did on the academic aspect, and, for these areas, the summer school experience was characterised by the mixing together of a wide age range. The interviews conducted with the students, both at sites G and H, and at the other evaluated sites, indicated that the mixing of ages was welcomed by the students. The quantitative data seems to support this. Although there was not a specific question in the end of summer questionnaire about age alone, there was one about the mix of age, sex, class and ethnicity. In response to this question 93% of the respondents at sites G and H indicated that the wide social mix was important to them to 'a great extent', or 'somewhat'.

Figure 3.2 To what extent were the following social aspects important to you personally? b) the wide social mix (e.g. ages, of sex, of social class, of ethnicity, of schools)

	Site G %. (n=119)	Site H %. (n=130)	All sites%. (n=892)
Great extent	72.3	59.4	62.2
Somewhat	20.2	33.6	28.9
Slightly	5.9	4.7	6.7
Not at all	1.7	2.3	2.3

In terms of the age mix, students frequently expressed their surprise at how well all the age groups mixed together, something that they frequently contrasted with the much more age-rigid distinctions that held between year groups at school. This aspect of the summer school model was noted, in particular, by qualified teachers, who had experience of both school and the NAGTY summer school experience. Two teachers from site H noted:

> 'I think that, for the mixture of ages, they get on really, really well, they just naturally mix. And I think the [time?] has been really, really good for the majority of them, because they've settled down and made really good friendships.'

'They've been very supportive of each other, in terms of rapport building, of working with each other. There has been a lot of team work.'

These comments from site H could apply equally well to all the NAGTY summer school sites.

3.3 The selection of the students

The NAGTY summer school students were, by nature, a select group of students. All the summer school attendees had to be members of NAGTY in order to attend a NAGTY summer school, and the NAGTY student group represented students drawn from the top 5% in the national ability range. The potential group from which summer school students were drawn was, therefore, a limited and exclusive one. Further, applicants for the summer schools were all, in theory, volunteers; although there was some anecdotal evidence that a small minority of summer school attendees were there for parental, rather than student, reasons. Although a small number of strand leaders expressed a wish to be involved at some stage in the student selection process, most were happy to leave the selection process to NAGTY. This process appeared to be successful. The main issue arising was the desire of strand teams to receive earlier, and more detailed, information about which students had been chosen for the strands. In particular, strand teams expressed a desire to see the personal statements of students so that strands can be better tailored to students' interests. Strand leaders also indicated that they would like more information on health and emotional issues that individual students may have, in order to prepare more effectively to support these students.

The fact that the summer school students were all drawn from the NAGTY pool of the top 5% means that the teaching teams were involved with a particularly able, and enthusiastic, group of young students. As in previous evaluations, academics and qualified teachers across all strands indicated that they were impressed by the NAGTY students, and academics often compared them favourably with undergraduates. Academics frequently commented on how forthcoming and engaged the NAGTY students were, being very willing to ask questions, put forward arguments, and become involved in the activities. One academic from site H divided his NAGTY student group into three types, and noted that even the less engaged NAGTY students were more motivated than most undergraduates:

'A number of them are highly motivated, really, really motivated, sitting up all night reading. There are also quite a number who are genuinely interested and curious, and there a few who probably blagged their way on, because they thought there was a better chance of getting on our course, who are not that interested, but I haven't had anyone who has tuned out, but some will tune out from certain topics. They are more motivated than most undergraduates, even the ones who are not that bothered.'

Other academics and teachers at site H were also enthusiastic, noting, for example, that:

'I had no idea how clever, how brilliant they are.'

'I was impressed by their enthusiasm, and their knowledge, and how they were able to connect things.'

'The majority of the kids are absolutely fabulous, they are having the time of their lives […] compared to any normal class, they are exceptional.'

3.4 The teaching teams

The basic model for NAGTY strand teaching teams – of a lead academic, a qualified teacher, and two teaching assistants – has shown itself to be an effective, and flexible, model that has facilitated the delivery of good quality teaching. Not all strands adopted the model in all its elements, but the basic outline of a lead academic plus several other teaching staff has been maintained by almost all strands. Different strands made different use of additional teaching staff, most typically in the form of academics from the relevant university departments presenting a small number of sessions. The other variation was the use of outside experts, for example, on field trips to museums, or science centres. Nonetheless, the core group made up of an academic, a qualified teacher, and teaching assistants was usually maintained. For example, an academic strand leader at Site G explained how he had made use of a number of outside speakers, and field work events, but that, in order to maintain continuity for the students: *"I made sure that each day we had a team leader and a post-graduate student with them all the way through".*

In addition to the flexibility of the basic teaching team model, the teaching team appeared to be successful for two other reasons. Firstly, there was usually a high adult/student ratio throughout each teaching day, and, secondly, there was, generally, an acceptance among strand leaders, and their teams, that each team member brought specific knowledge and skills to the team. Many strands had all members of their teaching team present throughout the day, even when there was a guest lecturer involved. This meant that there may well have been up to six members of the teaching team involved with around 20 students. Even if this high teacher/student ratio was not maintained at all times, it was usual to have three members of staff with each group. Many strand leaders realised that this approach was important, as one leader from site H noted, *"This has been my attitude towards it from the start, we wanted a lot of bodies on the ground".*

There was a general realisation that the different members of the teaching teams brought differing skills to the enterprise. Nonetheless, there was also a fairly wide variety in the use made of the qualified teachers, in particular. This was, in part, due to the contexts provided by different subjects, but, at other times, it was a function of the attitude of strand leaders, or, perhaps, problems with recruiting teachers, leading to their late appointment. In some cases, qualified teachers helped design and deliver elements of the strands. At best, this was because they had been part of well-integrated teaching teams that developed well planned strands. However, in a very small number of cases, qualified teachers were involved in preparation and delivery by default. In one strand, at site H, this appeared to have been the case. The strand team did not meet until a week before the summer school started, lines of communication and areas of responsibility were far from clear, and the qualified teacher became responsible for a great deal of the course content and delivery, without being entirely sure as to what was expected. However, it should be noted that this was the only such case identified in 2005.

More effective use of the qualified teachers usually involved:

- drawing upon them for information about the likely knowledge of children at different stages in their school careers
- input on activities and teaching styles and methods
- helping to clarify issues for the students
- classroom management

- health and safety issues.

Most of the qualified teachers regarded these areas as being their primary concern and most academics utilised the qualified teachers in this way. Typical comments by teachers, and academics, at sites G and H on their roles were:

> 'My role in the labs has been making sure that risk assessment has taken place, that they have the appropriate equipment, that they have taken on board the instructions, and have the appropriate behaviour.'
>
> 'The academic is there to explain the stuff. I have jumped in when the kids haven't picked something up.'
>
> 'I've been the experienced teacher who knows what the kids know.'
>
> 'We understood that the role of the qualified teacher was as a facilitator of the delivery.'
>
> 'The qualified teacher has said what is appropriate to school age.'

In only a few cases have qualified teachers felt that they had been sidelined. The most frequent complaint in this context was that they could have been used to help academics avoid what were, to the teachers, obvious pitfalls, such as over-long lecture sessions.

The teaching assistants were usually drawn from post-graduate, often doctoral, students, normally from the university departments involved in the delivery of the strands. Their contribution was sometimes included preparing and delivering sessions, but, more frequently was built around the role of highly informed classroom assistants. Although teaching assistants were not interviewed in 2005, strand leaders frequently mentioned them, and other staff, such as laboratory technicians, computer and technical staff, as being essential to the delivery of the strands. The typical picture was of integrated and successful team working and teaching, depending on good communication between the different elements of the team, and the acknowledgement of the differing strengths of team members. These points were made by team members from sites G and H:

'There has been lots of liaison between the strand leader and the post-graduates.'

'We tend to wok together as a team, especially on fieldwork, and in practical delivery.'

'A lot of the staff are used to team teaching.'

'We all have our strengths, and are very good at doing more group work, and it is a good opportunity for the qualified teacher to make observations.'

'It has been a pleasant experience. I am not used to team teaching in my day job. It has been a positive experience for me and for the students.'

3.5 The length of the summer schools

In 2005, six of the eight sites offered two week summer schools, while the remaining two presented three week summer schools. As in previous years, the teaching staff were divided on the issue of how long the summer schools should last. Interestingly, those involved in the two week strands felt that two weeks was the ideal length, while those on the three week courses felt that two weeks would be too short a time. The main concern expressed by staff who had experienced a two week course was that a longer period would be too tiring, particularly, in their view, for the students, but also for themselves. This was particularly the opinion of qualified teachers, with, for example, all of the qualified teachers at site G holding this view. However, interviews with students indicated that the majority of students wished that the summer school they were on (irrespective of whether it was a two or three week school) was longer. Among academics, opinion was more divided, with some, inter-disciplinary courses on the two week summer schools being better suited, in the strand leaders' view, to three week courses, while other strand leaders were more aware of non-academic issues that favoured two week courses, such as questions relating to staffing, holidays, and tiredness among students. Irrespective of the divisions of opinion, it was clear that the NAGTY summer school experience, in its two or three week form, offered a long exposure to a university and residential experience that was not available elsewhere.

3.6 A residential experience

All interviewed students valued the residential experience provided by the NAGTY summer schools. The data gathered in the student interviews on this aspect of the experience was reinforced by responses to the final, open, question on the end of summer school questionnaire. In response to the question, 'Please tell us what has been most worthwhile about the Summer School and why', 39.7% of respondents mentioned learning and social aspects of the experience, and 32.7% mentioned social and residential aspects. As the social aspects of the experience was essentially built around the residential nature of the summer schools, it can be argued that some 73% of responses were either directly or indirectly related to this aspect of the experience:

Figure 3.3 Please tell us what has been most worthwhile about the Summer School and why.

	Frequency	%
Learning and social	354	39.7
Social/residential	291	32.7
Learning	151	16.9
Blank/don't know	60	6.7
Feel for university life	29	3.3
Other	6	0.7
N =	891	

In the interviews, students identified a range of benefits they felt they had received because of the residential nature of the scheme. One student group at site G talked at length about the residential aspects of the summer school, and discussed many of the issues that other students brought up in interviews held at all the sites visited by CEDAR fieldworkers. The site G group noted five particular benefits accruing to the residential course:

- It helped them to learn independence
- It made it easier to make friends and to see their new friends more
- It made them feel more confident
- It helped them to learn to be more tolerant of other people

- It gave them a better picture of what it would be like to go to university

All these factors were highly valued by the students, who felt that being on site for the entire length of the summer school was both a stick and a carrot to help them develop in the ways listed. One student, from site H, commented:

> 'We're in this place for two weeks, and if you don't go out there to be friendly and sociable, it's going to be really tough. And so, everyone's gone out there with an optimistic outlook, and everyone has been *really* friendly.'

Combining factors such as the residential nature of the experience with, for example, the NAGTY cohort of young people, resulted in some very positive outcomes. As one site H qualified teacher recounted:

> 'One of the kids said yesterday, on the bus, "Did you think NAGTY [the summer school] was going to be so much fun?" And she said, "No, I thought it was going to be full of geeks!" And he said, 'Do you think you were going to make as many friends as we have?" And she said, "No way!"'

3.7 A university based experience

The overwhelming majority of students were excited by the fact that they were studying at a university, and that they were being taught by university staff – academics and post-graduates. Typically, summer school students wanted to find out as much as they could about studying and living at a university. In this context, they found it valuable that almost all the Residential Assistants were undergraduates, or very recent graduates, often at the university where the summer school was being held. Whether it was staying in university halls of residence, using university facilities, such as common rooms, laboratories, or libraries, or talking about undergraduate life with the RAs, the NAGTY students valued what they saw as being a taste of university life. In response to the end of summer school questionnaire, some 87% of respondents, overall, said that they had 'to a great extent', or 'somewhat' found out

what studying at university would be like. The percentages for sites G and H were 90% and 86% respectively.

Figure 3.4 To what extent did the academic side of the Summer School help you in terms of: g) finding out what studying at university would be like?

	Site G% (n = 119)	Site H% (n = 130)	All sites% (n = 892)
To a great extent	62.2	52.7	51.8
Somewhat	27.7	33.3	34.8
Slightly	7.6	9.3	10.2
Not at all	2.5	4.7	3.1

The teaching staff were also aware of how exciting the NAGTY students found being at a university. Two academics at Site H noted the response of their strand students when they were introduced to the university's main library:

> 'I don't think many of them had seen a library of this size, and the sheer fascination when they went in, and realised.'

> 'To allow them to explore [the library] to exercise intellectual curiosity, as opposed to just being talked at by another famous professor….'

That is not to say that the students were not impressed by meeting, as one student put it, *"real, live professors!"* In particular, students felt that they had benefited from being taught by university staff who were specialists in their areas, and they were aware that they were, therefore, gaining access to the latest thinking on the academic area that they were interested in. The combination of university facilities and staff made the summer school experience very exciting for almost all the students. In an unsolicited testimony from two science strand students that CEDAR received, all these important facets of the university experience were covered (Figure 3.5).

Figure 3.5 Unsolicited testimony from two science strand students

For both of us, the course has been a life changing experience that we will never forget. We found the standard of teaching exceptional, not only because our tutors are leaders in their fields of work and are astonishingly knowledgeable, but also

because they treated us as adults and tried to make the course as good as it can be. They were also extremely personable and incredibly humorous!

Throughout the course […] we never ceased to be amazed at the facilities available to us in the university, from the well-stocked library to the huge laboratories. We found the course material especially challenging and every day brought exciting new theories and practical experiments. The stimulation we received from being taught more advanced stuff than at school has given us much more academic confidence, not only in [subject] but for learning in general. […]

It was fascinating to do experiments using equipment that we had never seen before, such as the IR spectrometer. The resources offered to us were second to none, no expenses spared (the £2/gram antifebrin spillage incident comes to mind!)

The other academic staff we were introduced to enhanced our learning experience by giving us a view into more specialised areas of the subject. We would especially like to thank Dr [X], who was a fascinating table-mate at the NAGTY formal dinner. We both learnt so much from nattering to him for a few hours over dinner!

Seeing PhD students at work was a real insight into what research involves and how individuals can make a difference to the world. Looking at things like the electron microscope and the mass spectrometry machines was insightful and has broadened our knowledge of what is possible using modern-day techniques.

The […] summer school was one of the best experiences of our lives (not exaggerating!), and will be remembered for years to come.

3.8 The balance between academic and social activities

Although the academic element of the summer schools was of central importance, NAGTY stressed that the social aspects of the summer school experience were highly valued, something that was confirmed by the students. In its guidance for potential summer school applicants, NAGTY noted:

'Social time is an important aspect of our Summer Schools, and our members tell us that the social and recreational programme really makes the experience for them. So, try to be open-minded, ready to meet and engage with students from a whole range of backgrounds, and willing to throw yourself enthusiastically into things you may not have tried before.'
(http://www.nagty.ac.uk/student_academy/summer_schools)

This description of the approach that students are advised to take towards the social side of the summer schools does, in fact, match the attitude of the overwhelming majority of the students. The combination of high-quality teaching in the day, and a wide variety of social activities in the evenings and at the weekend/s, created a good balance between the two parts of the summer school experience.

At sites G and H, as with all the other sites (with the sole exception of site D), the social programme was in the hands of the RAs, who, typically, produced a wide-ranging series of different events for the students to take part in after classes. These activities were usually divided into sporting, creative, and intellectual activities, with the students being able to choose between them. The main problem simply appeared to have been issues concerned with the mechanisms for signing up for different activities – an administrative difficulty with no obvious solution. Nonetheless, the social activities were widely appreciated and enjoyed. The end of summer school questionnaire indicated that about 94% of all respondents felt that the social aspects of the summer school experience was 'very good' or 'good', with about 91% at site G, and 94% at site H matching these responses.

Figure 3.6 Overall, how would you rate the social aspects of the Summer School?

	Site G% (n = 119)	Site H% (n = 130)	All sites% (n=892)
Very good	45.4	49.6	60.4
Good	45.4	44.2	33.2
Acceptable	5.0	6.2	4.6
Poor	4.2	0	1.2
Very poor	0	0	0.6

These are very high levels of approval, and, matched with the similarly high levels of approval for the academic side of the summer school experience, indicate that the balance between academic and social activities has been achieved. The importance that the students attach to taking part in the social activities, and the concrete outcome of successful socialising – the making of friends – are both evidenced in responses to the end of summer school questionnaire. At sites G and H respectively, 89.9% and 91.4% of respondents felt that taking part in the social activities was important, and 94.9% and 91.4% of respondents, respectively, felt that they had made friendships that they believed would continue after the summer schools.

Figure 3.7 To what extent were the following social aspects important to you personally? Taking part in social activities.

	Site G% (n = 119)	Site H% (n = 130)	All sites% (n = 888)
To a great extent	48.7	42.6	53.0
Somewhat	41.2	48.8	36.8
Slightly	9.2	7.0	8.4
Not at all	0.8	1.6	1.5

Figure 3.8 To what extent were the following social aspects important to you personally? Developing friendships that may continue after the Summer School.

	Site G% (n = 119)	Site H% (n = 130)	All sites%. (n = 889)
To a great extent	73.1	70.5	74.1
Somewhat	21.8	20.9	20.0
Slightly	5.0	7.0	5.1
Not at all	0	1.6	0.8

Taken in conjunction with the data for students' perceptions of the value of the academic side of the summer school, these figures suggest that the balance between academic and social, which is felt by NAGTY to be important, has been achieved.

3.9 Comparison of the new and established sites

As noted throughout this section, the students at the two new sites, G and H, produced highly positive responses to the questionnaire. These data have been expanded upon by material from the interviews. In addition, a series of ANOVAs were carried out to examine whether there were any statistically significant differences between the sites overall, and, if so, where such differences occurred.

The results indicated that there were some statistically significant differences on most items across sites, although all sites were scoring positively - in general, about 80% plus of the students recorded positive ratings. Consequently, although there were differences between sites these were in degrees of strength of overall *positive* amounts.

Examination of the differences between individual sites suggested that, overall, one of the new sites, H, received statistically significant lower ratings than the high rated sites on a number of questionnaire items, while this occurred for site B on only a small number of occasions. However, as noted above, it is important to stress that these significant differences were all within a range of *positive* amounts. Hence, the conclusion might be that both new sites have also received very positive ratings across the various items examined in the questionnaire, but that site H has some work to do to match the more established sites.

Summary of key points from Chapter 3

- The CEDAR evaluations of the 2005, and preceding, summer schools indicate that a successful NAGTY Summer School model has been developed. The successful application of this model at two new university sites in 2005 provides evidence that it is a readily transferable model.
- The seven key characteristics of the NAGTY Summer School model are:
  - i) The age range, from 11 to 16, Years 7 to 11.
  - ii) The selection, by NAGTY, of summer school students from the NAGTY Student Academy.
  - iii) The basic teaching team structure – lead academic, qualified teacher, and post-graduate teaching assistants – is a flexible and successful one.

iv) The two or three week length of the summer schools provides sufficient time for a worthwhile learning and social experience.

v) The schools are residential, which brings with it a range of benefits.

vi) The university-based nature of the model enables the NAGTY students to benefit from facilities and personnel that they would otherwise not usually encounter.

vii) There is a good balance between the academic and social experiences available to NAGTY students on the summer schools.

4. CONCLUSION

The NAGTY summer school experience, delivered on eight university sites in 2005, was a highly successful one. At the end of the summer school, 97.1% of questionnaire respondents indicated that the summer school experience had been 'very worthwhile' or 'worthwhile'. This is an extremely high rate of positive endorsement.

The NAGTY summer schools have run since the initial one site pilot summer school in 2002. CEDAR has conducted the independent evaluation of each year's summer school, and a considerable amount of data has been collected. It is, therefore, possible to say that NAGTY and the summer school sites have consistently delivered a high quality, successful experience to the NAGTY students. Further, the successful extension of the summer school experience from its initial one site pilot, followed, in 2003, by the multi-site pilot, to eight sites across England enabled key factors in that success to be identified.

The summer schools have been successful in terms of the delivery of the strands, and in terms of the NAGTY summer school model. The key elements in the successful delivery of the strands in terms of teaching and learning were:

- The creation of a friendly and relaxed environment.
- Enjoyable, interactive activities.
- Variety in terms of tasks, topics, and teachers.
- A mixture of staff-directed and student-led activities.

The NAGTY summer school model has shown itself to be an eminently transferable model. Its key characteristics were:

- The wide age range of the students, covering students aged from 11 to 16, Years 7 to 11.
- The selection, by NAGTY, of gifted and talented students from the NAGTY Student Academy.

- The basic teaching team structure – lead academic, qualified teacher, and post-graduate teaching assistants – is a flexible and successful one.
- The two or three week length of the summer schools provides sufficient time for a worthwhile learning and social experience.
- The schools are residential, which brings with it a range of benefits.
- The university-based nature of the model enables the NAGTY students to benefit from facilities and personnel that they would not usually encounter.
- There is a good balance between the academic and social experiences available to NAGTY students on the summer schools.

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THE UNIVERSITY OF WARWICK

Summer School Site

CEDAR

NATIONAL ACADEMY FOR GIFTED AND TALENTED YOUTH
SUMMER SCHOOL EXPERIENCE 2005

The learning experience of the Summer School

1. What subject have you been studying at the Summer School?

……

……

2. Why did you choose the particular subject area? Please choose only **one** answer.

- ☐ It was the subject I was most interested in
- ☐ It was the subject I thought I would do best at
- ☐ It was recommended by my teachers
- ☐ It was recommended by my parents / guardians
- ☐ In future I would like to study that subject
- ☐ In future, I would like to do a job for which I need to know about that subject
- ☐ Other (please write down your reason)

……
……..

3. How would you rate the choice of your chosen subject in terms of the following:

a) Balance between theory and practical examples

☐ Very Good ☐ Good ☐ Acceptable
☐ Poor ☐ Very poor

b) Range of material covered during teaching

☐ Very Good ☐ Good ☐Acceptable
☐ Poor ☐ Very poor

c) Level of challenge you experience by the material

☐ Very Appropriate ☐ Appropriate ☐ Acceptable
☐ Inappropriate ☐ Very Inappropriate

d) Coverage of the subject matter by the tutor

☐ Very Good ☐ Good ☐ Acceptable
☐ Poor ☐ Very poor

e) Quality of teaching

☐ Very Good ☐ Good ☐ Acceptable
☐ Poor ☐ Very poor

f) Appropriateness of teaching methods used

☐ Very Good ☐ Good ☐ Acceptable
☐ Poor ☐ Very poor

4. To what extent did the academic side of the Summer School help you in terms of the following:

a) Developing problem-solving skills
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

b) Becoming an independent learner
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

c) Expanding your horizons regarding the subject studied
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

d) Increasing your confidence to contribute your views orally
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

e) Improving your writing skills/written work
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

f) Enabling you to share with, and learn, from your peers
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

g) Finding out what studying at university would be like
☐ To a great extent ☐ Somewhat
☐ Slightly ☐ Not at all

5. Did you receive information or advice, formally or informally, regarding

a) Options for your future education

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

b) Possibilities for future Career Choices

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

6. What would you like to improve with regard to the **learning experience** of the summer school?

……
……

The social experience of the Summer School:

7. Overall, how would you rate the social aspects of the Summer School?

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

8. To what extent were the following social aspects important to you personally?

a) Socialising with like-minded peers

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

b) The wide social mix (e.g. of ages, of sex, of social class, of ethnicity, of schools)

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

c) Taking part in social activities organised by the Summer School

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

d) Developing friendships that may continue after the Summer School

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

Other, please specify……

9. What would you like to improve with regard to the **social** aspects of the Summer School?

……

The Residential Experience of the Summer School

10. How would you rate the following aspects of the residential programme?

a) Distance between accommodation and teaching venue/s

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

b) Quality of accommodation

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

c) Quality of food

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

d) Informal interactions with residential assistants (RAs)

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

e) Support provided by residential assistants (RAs)

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

f) Appropriateness of rules relating to free time, bed times etc.

☐ Very Good ☐ Good ☐ Acceptable

☐ Poor ☐ Very Poor

11. To what extent has your participation in the Summer School had an impact on your family life?

a) Making arrangements for summer holidays

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

b) Putting financial pressure on your parents / guardians

☐ To a great extent ☐ Somewhat

☐ Slightly ☐ Not at all

Other impacts on family life:

☐

……
……

12. Overall opinion

Overall, how worthwhile has the Summer School experience been to you personally

☐ Very worthwhile ☐ Worthwhile

☐ Not very worthwhile ☐ Not at all worthwhile

About you

13. Are you Male ☐ Female ☐

14. Are you educated in state school ☐ independent school ☐ home educated ☐

15. Do you have a disability or special need? Yes ☐ No ☐

If Yes, please specifiy

……..

16. Have you attended a NAGTY Summer School before? Yes ☐ No ☐

Please tell us what has been most worthwhile about the Summer School and why.

……
……

……
……

……
……

Thank you for completing this questionnaire.

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RESULTS

THE LEARNING EXPERIENCE OF SS

Table 1. Percentages of students' responses on rating the choice of subjects by site

		A	B	C	D	E	F	G	H	Total
Q3a	Very Good	51.3	46.1	47.5	44.1	27.8	61.5	40.3	45.4	44.3
	Good	44.9	45.1	45.3	42.3	51.9	34.6	35.3	45.4	43.6
	Acceptable	2.6	7.8	7.2	11.7	16.5	3.8	16	6.9	9.7
	Poor	1.3	0	0	0	3.8	0	7.6	2.3	2
Q3b	Very Good	66.7	68.9	61.2	40.5	52.6	68.4	47.1	46.9	55.4
	Good	30.8	27.2	33.8	49.5	39.8	27.8	42	47.7	38.2
	Acceptable	2.6	3.9	4.3	9	6.8	3.8	8.4	4.6	5.6
	Poor	0	0	.7	.9	.8	0	2.5	.8	.8
Q3c	Very Appropriate	53.8	44.7	38.8	42.3	24.1	48.7	30.3	30.8	37.6
	Appropriate	43.6	47.6	46.8	42.3	58.6	41	52.1	53.1	48.9
	Acceptable	2.6	6.8	10.8	12.6	15	9	14.3	10.8	10.8
	Inappropriate	0	1	3.6	2.7	2.3	0	2.5	4.6	2.4
Q3d	Very Good	75.6	58.3	60.4	47.3	43.2	64.6	43.7	46.2	53.4
	Good	21.8	38.8	35.3	42.7	47	29.1	47.1	43.1	39.3
	Acceptable	2.6	2.9	3.6	9.1	9.1	6.3	6.7	10	6.5
	Poor	0	0	.7	.9	.8	0	2.5	.8	.8

		A	B	C	D	E	F	G	H	Total
Q3e	Very Good	80.8	67	71.2	67.6	46.6	77.9	55.5	54.3	63.4
	Good	17.9	30.1	25.2	27	42.9	18.2	37	34.9	30.4
	Acceptable	1.3	2.9	3.6	5.4	9	2.6	6.7	10.1	5.6
	Poor	0	0	0	0	.8	1.3	.8	.8	.4
Q3f	Very Good	64.1	58.3	53.2	39.6	25.6	55.7	44.5	46.2	47
	Good	33.3	38.8	36	53.2	49.6	40.5	42	43.1	42.5
	Acceptable	2.6	2.9	9.4	5.4	23.3	2.5	11.8	10	9.4
	Poor	0	0	1.4	1.8	1.5	1.3	1.7	.8	1.1

Note: Q3a – Q3f refers to rating the choice of the subject in terms of: (a) balance between theory and practical examples; (b) range of materials covered; (c) level of challenge experienced; (d) coverage of the subject matter by tutor; (e) quality of teaching; (f) appropriateness of teaching materials used.

Table 2. Percentages of students' responses on the academic side of SS by site

		A	B	C	D	E	F	G	H	Total
Q4a	Great Extent	37.2	18.4	23	27.9	16.5	35.9	12.7	14	21.8
	Somewhat	46.2	57.3	48.2	46.8	54.1	41	50	52.7	50.1
	Slightly	12.8	23.3	22.3	22.5	24.8	17.9	32.2	21.7	22.8
	Not at all	3.8	1	6.5	2.7	4.5	5.1	5.1	11.6	5.3
Q4b	Great Extent	46.2	38.2	30.9	22.7	24.2	47.4	16.9	23.4	29.6
	Somewhat	44.9	51	41.9	44.5	41.7	39.7	49.2	55.5	46.3
	Slightly	6.4	7.8	19.9	26.4	27.3	7.7	20.3	16.4	17.7
	Not at all	2.6	2.9	7.4	6.4	6.8	5.1	13.6	4.7	6.5
Q4c	Great Extent	85.9	85.4	75.4	67	64.7	83.3	75.6	71.3	75
	Somewhat	11.5	11.7	17.4	22.9	27.8	12.8	18.5	20.9	18.7
	Slightly	2.6	2.9	7.2	9.2	7.5	3.8	4.2	6.2	5.7
	Not at all	0	0	0	.9	0	0	1.7	1.6	.6
Q4d	Great Extent	48.7	38.8	43.2	30.6	30.3	57.1	21	39.8	37.4
	Somewhat	35.9	40.8	34.5	42.3	39.4	24.7	37	32.8	36.3
	Slightly	12.8	17.5	15.1	21.6	25.8	14.3	29.4	15.6	19.5
	Not at all	2.6	2.9	7.2	5.4	4.5	3.9	12.6	11.7	6.8
Q4e	Great Extent	15.4	16.5	21.6	5.4	11.3	29.5	9.2	9.3	14.2
	Somewhat	35.9	39.8	29.5	29.7	27.1	42.3	19.3	35.7	31.6
	Slightly	37.2	33	25.9	44.1	29.3	16.7	36.1	34.1	32.2
	Not at all	11.5	10.7	23	20.7	32.3	11.5	35.3	20.9	22

Table 2 contd.

		A	B	C	D	E	F	G	H	Total
Q4f	Great Extent	69.2	58.3	59	47.7	46.6	67.9	45.4	51.9	54.5
	Somewhat	23.1	31.1	31.7	39.6	36.8	24.4	35.3	32.6	32.6
	Slightly	6.4	10.7	8.6	11.7	14.3	6.4	17.6	13.2	11.6
	Not at all	1.3	0	.7	.9	2.3	1.3	1.7	2.3	1.3
Q4g	Great Extent	55.1	62.1	41.7	51.4	37.6	60.3	62.2	52.7	51.8
	Somewhat	34.6	31.1	43.2	30.6	42.9	30.8	27.7	33.3	34.8
	Slightly	9	4.9	11.5	14.4	15.8	6.4	7.6	9.3	10.2
	Not at all	1.3	1.9	3.6	3.6	3.8	2.6	2.5	4.7	3.1

Note: Q4a – Q4g refers to the academic site of SS in terms of: (a) developing problem solving skills; (b) becoming an independent learner; (c) expanding horizons with regard to subject matter; (d) increasing confidence to contribute views orally; (e) improving writing skills; (f) enabling to share with peers; (g) finding out what studying at university would be like.

Table 3. Percentages of students' responses on advice regarding future education / career by site

		A	B	C	D	E	F	G	H	Total
Q5a	Great Extent	14.5	14.6	13	17.1	9.1	21.8	42.9	15.5	18.4
	Somewhat	42.1	44.7	23.9	36	33.3	46.2	22.7	33.3	34
	Slightly	34.2	26.2	32.6	27.9	29.5	26.9	20.2	20.2	27
	Not at all	9.2	14.6	30.4	18.9	28	5.1	14.3	31	20.7
Q5b	Great Extent	13	18.4	12.3	20.7	12.8	24.4	42	17.8	20
	Somewhat	37.7	34	21.7	25.2	33.8	38.5	20.2	21.7	28
	Slightly	31.2	25.2	36.2	33.3	27.8	24.4	25.2	24	28.6
	Not at all	18.2	22.3	29.7	20.7	25.6	12.8	12.6	36.4	23.3

Note: Q5a and Q5b refer to receiving information and advice, formally or informally, regarding (a) options for future education and (b) possibilities for future career choices.

THE SOCIAL EXPERIENCE OF SS

Table 4. Percentages of students' responses on the social experience of SS by site

		A	B	C	D	E	F	G	H	Total
Q7	Very Good	80.8	71.8	54	53.6	57.9	90.9	45.4	49.6	60.4
	Good	15.4	25.2	39.6	30.9	37.6	9.1	45.4	44.2	33.2
	Acceptable	3.8	2.9	4.3	10	3	0	5	6.2	4.6
	Poor	0	0	2.2	1.8	.8	0	4.2	0	1.2
Q8a	Great Extent	79.5	77.7	72.7	60.9	63.9	89.7	66.4	67.4	71
	Somewhat	17.9	18.4	18.7	30.9	28.6	7.7	28.6	27.9	23.3
	Slightly	2.6	2.9	7.2	6.4	6	2.6	3.4	1.6	4.3
	Not at all	0	1	1.4	1.8	1.5	0	1.7	3.1	1.5
Q8b	Great Extent	62.8	61.2	63	57.8	54.1	70.5	72.3	59.4	62.2
	Somewhat	25.6	32	26.8	31.2	36.1	21.8	20.2	33.6	28.9
	Slightly	7.7	6.8	8.7	5.5	9	3.8	5.9	4.7	6.7
	Not at all	3.8	0	1.4	5.5	.8	3.8	1.7	2.3	2.3
Q8c	Great Extent	67.9	65	46.8	42.2	45.9	87.2	48.7	42.6	53.3
	Somewhat	26.9	32	40.3	34.9	44.4	10.3	41.2	48.8	36.8
	Slightly	5.1	2.9	10.8	18.3	8.3	2.6	9.2	7	8.4
	Not at all	0	0	2.2	4.6	1.5	0	.8	1.6	1.5
Q8d	Great Extent	96.2	79.6	70.5	66.4	60.9	92.3	73.1	70.5	74.1
	Somewhat	3.8	16.5	21.6	28.2	30.1	5.1	21.8	20.9	20
	Slightly	0	3.9	7.2	3.6	7.5	2.6	5	7	5.1
	Not at all	0	0	.7	1.8	1.5	0	0	1.6	.8

Note: Q7 refers to the overall social experience. Q8a to Q8d refer to the social experience in terms of
(a) socializing with like-minded peers; (b) the wide social mix; (c) taking part in social activities;
(b) and (d) developing friendships that will continue after the SS.

THE RESIDENTIAL EXPERIENCE OF SS

Table 5. Percentages of students' responses on the residential experience of SS by site

		A	B	C	D	E	F	G	H	Total
Q10a	Very Good	30.8	23.3	48.9	48.6	40.2	39	20.2	18.6	33.9
	Good	50	44.7	43.8	45	44.7	44.2	63.9	61.2	50
	Acceptable	17.9	27.2	6.6	6.3	12.9	16.9	14.3	16.3	14.2
	Poor	1.3	2.9	.7	0	2.3	0	1.7	3.1	1.6
Q10b	Very Good	7.7	45.6	9.4	10.8	20.3	23.1	21.8	10.9	18.3
	Good	26.9	38.8	22.5	36	34.6	34.6	42.9	45.7	35.4
	Acceptable	47.4	13.6	37	37.8	31.6	26.9	25.2	24.8	30.3
	Poor	12.8	1	18.1	10.8	8.3	12.8	9.2	14.7	11.1
Q10c	Very Good	82.1	81.6	48.6	71.2	51.9	82.1	64.7	55.5	64.8
	Good	15.4	17.5	34.8	22.5	38.3	17.9	31.1	36.7	28.4
	Acceptable	2.6	0	11.6	2.7	9.8	0	4.2	7	5.4
	Poor	0	0	5.1	2.7	0	0	0	.8	1.2
Q10d	Very Good	78.2	75.7	59.4	58.6	55.6	82.1	63	53.1	63.9
	Good	19.2	23.3	29	30.6	33.8	15.4	34.5	37.5	29.2
	Acceptable	1.3	1	10.1	5.4	9	2.6	1.7	8.6	5.5
	Poor	1.3	0	1.4	4.5	.8	0	.8	0	1.1
Q10e	Very Good	0	0	14.4	12.6	11.3	0	15.1	3.8	8.1
	Good	0	0	30.2	26.1	33.1	0	37	23.8	21.3
	Acceptable	0	0	34.5	31.5	34.6	0	35.3	36.2	24.4
	Poor	0	0	14.4	18.9	15	0	6.7	23.1	11.1

Table 5 contd.		A	B	C	D	E	F	G	H	Total
Q10f	Very Good	0	0	13.7	13.5	8.3	0	11.8	6.9	7.6
	Good	0	0	33.1	39.6	20.3	0	38.7	31.5	22.9
	Acceptable	0	0	25.2	32.4	33.8	0	32.8	30	21.7
	Poor	0	0	17.3	10.8	27.1	0	10.9	16.2	11.9

Note: Q10a – Q10f refer to the residential experience of SS in terms of (a) distance between accommodation and teaching venues; (b) quality of accommodation; (c) quality of food; (d) informal interactions with residential assistants; (e) support provided by the residential assistants; (f) appropriateness of rules relating to bed time and free time.

Table 6. Percentages of students' responses on impact of SS on family life by site

		A	B	C	D	E	F	G	H	Total
Q11a	Very Good	20.5	22.3	26.8	27.3	21.8	36.4	25.2	26.4	25.6
	Good	39.7	34	39.9	35.5	37.6	31.2	28.6	44.2	36.6
	Acceptable	20.5	23.3	19.6	18.2	22.6	15.6	27.7	14.7	20.4
	Poor	19.2	20.4	13.8	19.1	18	16.9	18.5	14.7	17.4
Q11b	Very Good	7.8	6.9	8.6	9.3	8.6	7.7	10.3	8.7	8.6
	Good	23.4	26.5	23.7	17.6	20.3	34.6	26.7	24.4	24.2
	Acceptable	27.3	30.4	30.9	31.5	28.9	32.1	27.6	29.9	29.8
	Poor	41.6	36.3	36.7	41.7	42.2	25.6	35.3	37	37.4

Note: Q11a and Q11b refer to the impact of participating in SS on family life in terms of (a) making arrangements for summer holidays; and (b) putting financial pressure on parents / guardians.

Table 7. Percentages of students' responses on their overall opinion about how worthwhile the SS was by site

		A	B	C	D	E	F	G	H	Total
Q12	Very Worth	94.8	89.3	83.2	72.1	77.1	96.2	72.9	81.3	82.1
	Worthwhile	3.9	10.7	16.1	25.2	22.9	3.8	25.4	18	17
	Not very	0	0	.7	1.8	0	0	1.7	.8	.7
	Not at all	1.3	0	0	.9	0	0	0	0	.2

Table 8. Percentage of students educated in state and independent sector and at home

		A	B	C	D	E	F	G	H	Total
Q14	State	90.8	81.4	87.7	87.2	91.7	83.8	79.8	87.4	86.3
	Independent	9.2	18.6	12.3	12.8	8.3	13.5	19.3	12.6	13.3
	Home	0	0	0	0	0	2.7	.8	0	.3

Table 9. Percentage of students having a disability or SEN

		A	B	C	D	E	F	G	H	Total
Q15	Yes	4.2	2.2	5.7	4.9	8.8	4.2	2.8	3.6	4.7
	No	95.8	97.8	94.33	95.1	91.2	95.8	97.2	96.4	95.3

GENDER AND SS LEARNING EXPERIENCE

Table 10. Percentages of students' responses about learning experiences by gender:

A. Rating the choice of chosen subjects

	Q3a		**Q3b**		**Q3c**		**Q3d**		**Q3e**		**Q3f**	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Very Good	51.7	50	50.7	59.9	37.5	37.6	51.9	54.7	63.9	63.1	43.4	50.2
Good	43.2	35	40.3	36.1	49.1	49	40.5	38.4	30	30.7	45.3	39.9
Acceptable	6.1	5.5	7.8	3.6	10.8	10.5	7.3	5.6	5.9	5.4	10.1	8.8
Poor	0	0	1.2	.4	.2	.4	.2	1.3	.0	.9	1.2	1.1

Note: Q3a – Q3f refers to rating the choice of the subject in terms of: (a) balance between theory and practical examples; (b) range of materials covered; (c) level of challenge experienced; (d) coverage of the subject matter by tutor; (e) quality of teaching; (f) appropriateness of teaching materials used.

B. Academic side of the SS

	Q4a		**Q4b**		**Q4c**		**Q4d**		**Q4e**		**Q4f**		**Q4g**	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Very Good	21.7	22	25.4	33.5	72.3	77.4	33.5	40.9	13.2	15.1	46.7	61.7	50	53.5
Good	51.9	48.3	47.7	44.8	20.6	17	35.8	36.8	26.4	36.3	36.1	29.2	35.8	34
Acceptable	21.9	23.7	19.5	16.1	6.9	4.7	22.2	17.1	36.3	28.6	15.3	8.2	10.6	9.7
Poor	4.5	6	7.4	5.7	0	0	8.5	5.2	24.1	20	1.9	.9	3.5	2.8

Note: Q4a – Q4g refers to the academic site of SS in terms of: (a) developing problem solving skills; (b) becoming an independent learner; (c) expanding horizons with regard to subject matter; (d) increasing confidence to contribute views orally; (e) improving writing skills; (f) enabling to share with peers; (g) finding out what studying at university would be like.

Table 11. Percentages of students' responses about social experiences and overall views (Q12) by gender

	Q7		Q8a		Q8b		Q8c		Q8d		Q12	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Very Good	55.6	64.7	65.5	75.9	56.4	67.6	47.4	58.7	65.5	81.9	78.9	85
Good	36.6	30.2	27.2	19.8	32.2	25.7	39.3	34.6	25.3	15.3	19.7	14.5
Acceptable	4.7	4.5	5.2	3.4	8.5	5	10.4	6.5	7.8	2.6	1.2	.2
Poor	2.1	.4	2.1	.9	2.8	1.7	2.8	.2	1.4	.2	.2	.2

Note: Q7 refers to the overall social experience. Q8a to Q8d refer to the social experience in terms of (a) socializing with like-minded peers; (b) the wide social mix; (c) taking part in social activities; and (d) developing friendships that will continue after the SS.

Table 12. Percentages of students' responses about residential experiences by gender

	Q10a		Q10b		Q10c		Q10d		Q10e		Q10f	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Very Good	28.7	25.7	31	36.3	18	18.5	66.2	63.6	62.9	64.7	9.7	6.7
Good	42.6	39.6	48.3	51.6	36.2	34.8	26.2	30.4	29.3	29.1	22.2	20.6
Acceptable	21.7	22.9	18.2	10.6	29.3	31.2	5.2	5.4	5.7	5.4	23.1	25.8
Poor	.9	1.4	.5	.2	10.4	11.8	1.9	.6	1.9	.4	10.4	11.8

Note: Q10a – Q10f refer to the residential experience of SS in terms of (a) distance between accommodation and teaching venues; (b) quality of accommodation; (c) quality of food; (d) informal interactions with residential assistants; (e) support provided by the residential assistants; (f) appropriateness of rules relating to bed time and free time.

(For question Q10f, a large number of data points are missing (left blank) in that 27 of boys and 31 of girls did not answer it).