

Methods of Educational Enquiry

Plan of a small-scale enquiry linked to the development of a skills-based cross-curricular Citizenship based module for Able, Gifted and Talented students in Years 9-11, bearing in mind particularly the concepts of validity, reliability and triangulation and how they are related in this context.

Introduction and Context

From 2001, Westwood St. Thomas Upper School has developed an enrichment programme aimed at its Able, Gifted & Talented cohort. This is led by a co-ordinator and is aimed at increasing and deepening students' experiences of specific curriculum areas in which they are identified as Able, Gifted and/or Talented. This enrichment programme forms a three-way provision:

- In-class provision aimed at providing opportunities for A, G+T students to extend themselves and deepen their experience within the classroom.
- Extra-curricular provision through withdrawal in small groups linked to specific curricular areas.
- Catering for the whole child, involving careers guidance, aiming-higher links with HE Institutions and a student-staff Mentoring scheme.

The individual students' progress is tracked through a portfolio of evidence; documenting the interview sessions and every involvement that the student undertakes within the scheme. Academic progress is monitored via teacher assessments and via reports to parents. It is the desire of the school for each student to take part *voluntarily* in the programme according to her wish and that the student has ownership over the portfolio.

Communication to stakeholders has been seen as one of the key foundations of success. The Headteacher states that the programme should "cater for the needs of the students identified at the school... in that we aim to best serve their interests".

Two foci have been agreed for the academic year 02/03. The second of these foci is to increase pace, motivation and challenge for students by delivering a cross-curricular unit linked to Citizenship. This will begin with the delivery of key skills¹ to students, followed with the utilization of these skills in an open-ended task. During the sessions, the teacher will take on the role of Facilitator, and the course will culminate in a presentation session aimed at allowing the students to work on an area of specific interest to them. The follow-up to the sessions will be the publication of students' work.

¹ The Singapore Gifted Education Programme defines "Key skills" as process skills. These include brainstorming, high-level questioning, hypothesising, ICT and problem solving. All these skills aim to extend the gifted/talented child's chance of success within the classroom and beyond.

It is hoped that this pilot course will form the basis of the A, G & T Summer school (if the 2003 bid is successful) and will aid further planning of the enrichment programme.

This pilot course comes as the result of information from two sources; which give a local and international link to the process. Firstly, St. John's School in Marlborough, Wiltshire has collapsed its Year 8 curriculum into cross-curricular theme-based work, and is due to extend the scheme to the new Year 7 in 2002/2003. The cornerstones of this curriculum are listed as Citizenship, working with people, working with resources and learning to learn.

Secondly, The Singapore Ministry for Education has specific schools operating a Gifted Education Programme². This takes students who score 3 or more A* in the Primary 6 selection test. This entails a subject-based curriculum combined with extra curricular activities such as an Innovation or Individualised Research Programme to which the proposed research is heavily linked. Within the pilot research, the aim is to bring positive aspects from these sources together and then to localise them to the specific needs of WST students.

This collaborative model of practise emphasises the importance of recontextualizing ideas that are borrowed, shows similarities to the "host school" research carried out in West Sussex in 2000³. This report stressed "the importance of ...change which is collaborative and potentially transformative, (and) of a time-scale that allows teachers time to plan appropriate intervention and to evaluate the progress that has been made" (Rudduck, Berry, Brown and Frost, 2000:259). The transformative element of the process is already highlighted given the data that has been linked together from different sources to best suit the school's needs. St. John's fulfils the status of "host school" given the shared set of substantive concerns. Similar to the 2000 report, the concepts of "challenge, pace and motivation" (Rudduck et al 2000:261)) are shared between the two schools.

The main aim of this research can therefore be preliminarily classified as "improving the pace, motivation and challenge at WST for A, G & T students". However, this aim can be further stratified in terms of objectives of the process:

- A, G and T students should be given the opportunity to work with peers of a similar ability level.
- These students should have a learning skill base that they can draw upon as appropriate.
- These students should be given an opportunity of more open-ended self-motivated projects with guidance, rather than direction, given by teachers.

² Information related to St. John's School and the Singapore Ministry for Education are contained as Appendix 3.

³ The full report, entitled "Schools learning from schools" is contained as appendix 4.

Measuring these desirable outcomes will be a consideration for how the effects of the research are measured (Robinson 1999). These objectives are issues that will affect both the qualitative and quantitative data that is collected throughout the research.

Another issue to be considered will be the Hawthorn effect, given that these students have chosen to take part as guinea pigs in a pilot scheme. “This threatens to contaminate experimental treatments in educational research when subjects realise their role as guinea pigs...threatening to limit the degree to which generalizations can be made..” (Cohen, Manion & Morrison 2001b:127) I am therefore keen to keep the objectives of the research open to modification, and, given the “pilot” nature of the research, consider the sustained productivity from skills-based cross-curricular work in closer detail.

The nature of the process

The first area to consider in planning for the research is defining the enquiry itself. Whilst I intend to follow an Action Research cycle, I also believe that the nature of the process features characteristics common to a case study⁴. Recognising the characteristics of both allows the researcher to relate issues of reliability, validity and triangulation more appropriately.

In considering the Action Research nature of the research, certain characteristics can be drawn from it, such as “(the research) requires action as an integral part of the research process itself” and “The research requires action by several of the stakeholders that it encompasses to be successful, such as the students themselves”. This research is aimed principally at the students as stakeholders in the process, and efforts must be made to involve them in planning for the unit in order to give them increased ownership over the process. AR is also termed as the relation of the research to the researcher’s own professional values. The influence of my own values as researcher in the process is a consideration. In previous research my values related closely to the “awareness of students about their own learning” (Collins, 2002). This is a value that is strongly linked to the aims of the process through the involvement of students as key stakeholders in the process. Other stakeholder interest can be defined as planning and delivery on the part of the subject staff involved, parental consent, links with hosts and “critical friend” observations.

The research also shares a strong characteristic of case-study research, in that the basis of the research is the “how” or “why” question, “capturing what I am really interested in answering”(p.20 Yin). However, instead of relating the characteristics of the research to other methods I am keen for methodological inventiveness to play a large part in the defining continuation of the research. Bullough & Pinnegar (1983) attempt to provide guidelines for quality in self-study research, in prescribing that, “every man is his own methodologist...methods must not prescribe problems, rather, problems must prescribe methods” The stakeholders views and the data gathered before, during

⁴ A further expansion upon the definition of the research is contained as Appendix 5.

and after the process aid in the creation of the method. Methodological inventiveness is emergent in the process.

Methodology

One of the main concerns raised above will be the measurement of the stakeholder attitude to the proposed research. This is essential if the research is to truly benefit those involved and to fulfil the proposed objectives; bearing in mind that these may be altered given stakeholder feedback.

Oppenheim (2001) argues for attitudes to exist in terms of domains of interests. This research could be classified as one domain of interest within each stakeholder. Each stakeholder will be involved with the process on a different level. Each will have his own agenda in terms of what he wants to gain from the programme, or what he wishes the school to gain from the process. He will carry his own set of values.

In order to gauge the attitude of the stakeholders prior to the process, I propose a questionnaire aimed at setting out the content and proposed aims of the pilot programme. This questionnaire will be aimed at a representative sample of stakeholders, although it is fair to say that the stakeholders can be stratified into *clusters* according to their position in relation to the project. Questions would be directed towards delivery time of the programme, what the outcomes of the programme should be (in order to modify my original aims), structure of the sessions, number and make-up of involved students and cross-curricular theme of the programme. Questions would not however be included related to the actual skill-based content. This content would need to be decided by Faculties relating to skills in the KS4 curriculum, and would be addressed through an A,G&T working party meeting early in the Autumn Term. These strata can be classified as the following:

Stratum 1: Students involved in the A, G&T programme in Years 9-11. Containing 75 students in Years 10&11, with Year 9 to be classified after the Autumn Term.

Strata 2: A, G and T Faculty staff representatives. 12 in total

Strata 3: Parents of A, G&T students relating to number of students shown above

Strata 4: 2 A, G & T link governors

Strata 5: SMT 5 in total

Strata 6: LSA (1 linked to programme)

Strata 7: LEA (1 link researcher involved with the school programme and 1 SEN Advisor)

The representative sample will be divided equally between the relative strata above, chosen at random. This is defined by Oppenheim as *cluster random sampling*, and will aid in giving the coordinator a representative sample from the involved

stakeholders. One problem arising will be the stratum containing few individuals (such as Stratum 6). It will be important to maintain the evenness of the overall sample, but in these cases individuals will be asked for their confidentiality not to be protected. To counteract this, the individual concerned will be involved at each stage of the publication, with data relating to him/her being highlighted in advance of publication.

Given the level of engagement of the stakeholders with the enrichment programme, I would anticipate a high response level to the survey. I will however distribute 40 surveys, in anticipation of a 20% non-return. Costs will be reduced by an in-house distribution system, with only questionnaires aimed at parental stakeholders and governors needing to be posted.

Before this sampling takes place, I propose a pilot “critique” of the questionnaire design, utilising two “critical friends”⁵. These I propose to be a member of SMT with whom I have worked with closely on other related research, and a researcher into the Gifted and Talented who has led INSET within the school. After discussion and amendment of the questionnaire with these two parties, I would propose to distribute the re-defined questionnaire to a pilot group of students and parent stakeholders, as these are the only two strata large enough to contain a sample group. The layout of the pilot questionnaire would also be tested in this preliminary phase. In previous questionnaires that I have distributed, I found that a brief covering letter made on headed paper added to the authenticity of the questionnaire.

Once the questionnaire results have been collected in via form tutors, results would need to be distributed to all stakeholders. As the questions will be formulated using a Likert scale (strongly agree... strongly disagree), results can be shown using a table format. On the positive side “the internal-consistency method of each item selection approaches uni-dimensionality in many cases” (Oppenheim 2001:200). However “there is a lack of reproducibility”(Oppenheim 2001:200) with this type of scale. Therefore I intend to make the pattern of responses a focal point for interpretation.

The level of agreement would be measured on a 5-point scale, with negative and positive statements representing two sides of the same point to increase validity and create construct validity for the questionnaire design⁶. Using a 5-point scale also allows for quantitative data to be present.

Once the preliminary data has been gathered and the course and design of the unit has been planned, the next question to consider is how to evaluate the programme. Evaluation of the programme is essential for several reasons:

- If the Summer School bid is successful, then this will aid planning.

⁵ A “critical friend” relates to an individual connected with the field of research, but who is outside of the inner circle of the research process. It is hoped that this individual can provide a subjective view on the research proceedings, increasing subjective validity, and advising of changes of direction where required.

⁶ An example of the first outline of the questionnaire is shown as Appendix 1

- The next cycle of the Action Research loop will be facilitated (evaluation-reflection-planning)
- Communication will be fed back to stakeholders to inform them of the process (via a summary document showing stages of planning, delivery and review)
- The proposed aims of the research can be measured.
- The proposed aims can be reviewed in light of the process.
- The way forward for the A, G & T programme will be facilitated.

I propose to evaluate the process of the research by using several methods, all aimed at creating triangulation of the research. The first method will be via a journal created by myself as the participant-observer in the research and by a sample group of participant students in the programme. The journal will serve to highlight the personal record of events and thought processes by these two sets of participant. "Providing that accounts are authentic, it is argued, there is no reason why they should not be used as scientific tools in explaining people's actions" (Cohen, Manion & Morrison 2001b: 294). Brown and Sime (1977) propose an account-gathering method that involves research strategies with sets of control procedures for each of these elements. I am interested in utilising this model, as these control methods will increase the validity of the account inclusion in the methodology of evaluation. These control methods are listed as strategies below:

The first strategy is choosing the **informants** of the procedure. My rationale for choosing myself as one of the informants is the "account of the account" (Brown and Sime 1981) aspect given by the researcher account to the process; one of summary, overview and interpretation. The students add to this account, having chosen to take part in the unit, and therefore also having a high level of motivation in the process.

Secondly, the account-gathering venue is in-house. This is due to the fact that there is an ICT suite available in the venue, and students will be able to anonymously record their accounts at the end of each session, using a directional template that would be placed on the school network. This template would ensure validity and reliability of the account design. It would be vital to make sure that I was not present in the venue at the time that the accounts are being produced, so as to reduce the inhibitions of the students and to ensure the anonymity of responses. Giving students the necessary time to complete this would be essential in planning for the session.

Thirdly, the transformation of the accounts would be vital in consideration of how the data would be useful to the evaluation process. I would investigate similarities and differences in the accounts, and group these into the areas given on the account template. I would also look at the frequency of choice of various items. This would permit some generalisations about the group's attitude to the process. These two methods are described as an experience sampling method (Kittwood 1977:297),

although crosschecking is suggested as a precaution against consistent but unrecognised bias in my interpretation of the accounts as participant-researcher. I would propose to utilise a critical friend to crosscheck the accounts in order to increase the validity of the process. A great deal of goodwill needs to be taken into account in order for the necessary time to be spent on this process.

I propose two further methods in order to evaluate the impact of the research. Firstly, the sessions will be observed. Firstly by myself as a participant-observer in the process. Whilst recognising a possible personal bias to the proceedings, former research undertaken by myself shows the “I” to be the harshest critic of the research process. Secondly, I would ask firstly the Deputy Head as a critical friend to observe one session. Both observations would utilise the school’s proforma for observations⁷. This involves a focus for the observation to be recorded in terms of pre-conceived categories. Utilising the proforma would aid validity of the observation process between the two observers. Whilst validity relates to evidence rather than process, the evidence can however be seen as a function of the process. The focus would need to be discussed between the observer and the coordinator in advance, and be linked to the desired outcomes of the research. As a follow-up to the observation, I would ask to meet with the observer and discuss the issues arising from the observation focus, and also would ask for a copy of the observation notes to use as qualitative data to compare with my own observation data.

The other method to be utilised in order to increase triangulation would be an interview of the participants in the scheme. This would ideally take place immediately after the completion of the programme in order to ensure that thoughts on the process are fresh in the mind. Prior to the interview, each interviewee would be asked to complete an identical pre-interview sheet, focusing on the various aspects of the programme that would be asked about in the interview. This would be in order to commence the thought process prior to the interview, and also to increase consistency in the interview process.

The interview itself would follow the pre-interview sheet in terms of the questions asked, to ensure that each interviewee is being treated in a near identical manner. I wish to utilise interview “as the open-ended nature of the questions (would) allow the respondents to say what they think and to do so with greater richness and spontaneity” (Oppenheim 2001: 81). I also believe that the quality of responses will be affected by the intrinsic motivation of the subject for participants; having just taken part in the programme themselves and believing that responses will help form the future direction of the A, G&T programme within the school.

Whilst sharing an enthusiasm for the richness that interviews will bring to the data gathering process, I also hold some reservations about possible deviations that may take place from the central task of the interview. Namely, that if the researcher is to conduct the interviews, her natural enthusiasm for the process and sub-conscious use of voice may affect the interviewee’s responses. However, if the researcher conducted

⁷ A copy of the proforma is contained as Appendix 2

the interviews, then her internal knowledge base of what data is needed from the interviews will help to steer questions in certain directions as the interview unfolds. This is a vital part of the process, and one which an external interviewer could fail to recognise without the same internal knowledge base. I would argue again for a Likert scale to be used, as a series of running prompts to be read out by the interviewer. It would also be preferable to ask for a reason/expansion on the answer, so that key words given can be grouped together to give a more in-depth evaluation of the process.

It would be ideal for the interview itself to contain an equal range of factual, attitude and classification questions; “This goes a long way towards resolving the contradictions between the requirement for standardisation and the need for flexibility and equivalence” (Oppenheim 2002: 87).⁸

The ideal number of interviews would include two members of staff who have delivered the programme and two students who have taken part selected at random. A critical friend would conduct a further interview on the researcher herself, in order that her own opinions could be given under the same validated conditions.

Presentation of the data

Following the collection of the data, a report would follow, available to all stakeholders in the process, the link organizations with whom we have worked and outside agencies such as the LEA. Sharing of the information is vital, and I would share the information via the excellence in standards DfES website in order to gain further feedback from a wider G&T community of the process that has taken place. Similarly, I would ask the G&T link researcher to read a copy of the report. I would also submit the report to the Wiltshire Education Journal for possible publication.

The report would need to contain both qualitative and quantitative data, gathered from the methodology used in the process. This would add balance to the data given in the report. The report would firstly be shown to the critical friends of the process before being submitted to the Headteacher of the school for validation.

The report itself would need to be in structured sections that would make the report easier for the reader to suggest. Following Whitehead, McNiff and Lomax’ (1996) example, I propose the following sections as a modified version of this example;

- An abstract to describe the structure, purpose, method and overall significance of the research.

⁸ An example of a factual question to be included would be “What has been the most successful aspect of the programme delivery?” This would require rewording for some participants, as well as the possible need to define what is meant in this case is successful.

An attitude question example may follow “To what extent may the skills learnt here be of use in the KS4/5 curriculum?”

Finally, a classification question may involve “What do you see as your main reason for becoming involved in this programme?” Here, a prompt list would be given from which a choice may be made, including “other (please specify)”.

- The focus of the research and an outline of the original objectives of the research.
- A description of the project itself containing an account of the progress of the investigation and the principle results/claims of the research.
- The review of the objectives in the light of the research findings and indications of the bearing of the research on the future G&T programme of the school.

Ethics

Throughout this assignment, issues relating to ethical dilemmas that the research will face have been referred to. “The obligation to protect the anonymity of research participants and to keep research data confidential is all-inclusive” (Frankfort, Nachmias & Nachmias 1992: 61). Ensuring that no personal data is given in the questionnaire, other than a participant’s role within the process, would allow anonymity. However, a question of severely reduced anonymity is raised in the interview phase if the researcher conducts the interviews. Here, confidentiality must be ensured. “(The researcher) must be quite explicit in explaining to subjects what the meanings and limits of confidentiality are”(Cohen et al 2001:62). A short paragraph at the beginning of the interview, to be read aloud by the interviewer, would serve to say that no public connection would be made with the shared information given. In reporting the information from the interview, I would instead use generic terms such as “one interviewee noted” “one participant observed” etc. When using the student journals as source material, utilizing the medium of ICT would ensure anonymity.

Given the natural anxiety of parents at the thought of their child’s account being recorded, a letter explaining confidentiality and anonymity would need to be extended to all parents involved, prior to the unit commencing.

Conclusions and recommendations

The need for methodological inventiveness, in terms of creating a methodology that serves to increase the sense of identity of the participants within the research is undoubtedly “a fundamentally important aspect of the quality of the research, and by implication, of the quality of the outcomes” (Dadds & Hearts 2001:166). Those research methods selected for data collection have been chosen in order to “help the researcher display (her) own personal signature on the research” (Dadds & Heart 2001:167). Although external validity may be compromised by this researcher choice, the internal validity controls exercised over the data collection methods are aimed at counteracting this effect. I believe that unless research data is collected entirely independently of the researcher, researcher signature will be displayed upon the research to some degree.

Fullan (2000:56) defines the role of the researcher within this process as one of “change agent”. “Many roles at this level are formally charged with the responsibility of stimulating and supporting change”. Here the researcher has reacted to external influences provided by the “host school” and international context. These influences have then been combined with the relevance of this material and with the readiness of

WST to initiate the change. Although the initial planning for the implementation process has been discussed here, as Fullan states, “the ideas of others will expose the problems of implementation that must be addressed and will lead to alterations for the better in the direction of the change” (2000:96) Therefore, openness to changes in the proposed methodology must be seen as welcome by the researcher, in the light of new information combined with flexibility in the process. This flexibility is also reflected in the cyclic nature of the Action Research characteristics of the research. The evolving nature of the research will only become clear as the process unfolds.

In reviewing the proposed methodology in light of the concepts of validity, reliability and triangulation, increasing these elements relies to an extent on the ability and willingness of critical friends to complete observations and engage with the researcher on the evolving process of the research.

Although pilot research and internal reliability have been included in the planning stage, repeating certain methods will not always be practically possible, given resource constraints. Utilizing triangulated methods of data collection i.e. via student journals and interviews, as well as staggering the time when these are collected within the process, means that greater confidence will be able to be placed in the validity of the conclusions to be made.

Sharing the information will be a vital aspect of the research to increase external validity. This will be done through critical friends and the validation group (A, G&T working party) and the relevant stakeholders. Critical engagement of the issues raised during the research through these mediums will serve to strengthen the eventual conclusions made.

Proposed Timeline

September 2002-Liason with St. John’s School Researcher to visit

host school. Data collected on Singapore GEP

-G&T working party meeting to discuss the proposal

-Distribution of source material related to the proposed research

November 2002-Recruitment of critical friends

-Distribution of preliminary questionnaires to stakeholders

December 2002-Feedback to stakeholders of preliminary questionnaire

-Firming up programme for pilot unit.

January 2003 -Discussion with working party about delivery of unit

-Resource planning linked to G&T budget.

February 2003 -Sharing unit proposals with stakeholders

-Recruitment of students.

March 2003 -Delivery of unit over 6 weeks

-Student journals, observations to be completed.

April 2003 -Interviews of participant stakeholders

-Review of pilot unit in terms of objectives.

May 2003 -Presentation of research findings to working party

-Report of research to be compiled.

July 2003 -Report to be submitted to outside agencies and stakeholders for
review