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Investigating language teachers' 'take-ups' from an in-service short course.

Botha, Elizabeth Mathakga

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In the past, a common belief among teachers was that to ask questions was to teach well. However, this perception has since changed to 'to question well is to teach well' because good questions are vital to good teaching and learning (Dillon,1982:128). Poor questioning from both teacher and learner can create barriers to learning.

2.3.1 Purposes of teachers' questions

Dillon (1988:55) suggests that teachers' questions have different purposes at different moments in a teaching programme. In his example, the teacher may have an immediate purpose in this moment for his/her act of questioning, an intermediate purpose for today's questions, and a long-term purpose for using questions in class. The actions of questioning in relation to these purposes are considered to be different actions with distinct purposes.

The teacher's intended outcomes for a lesson influence the questions that will be asked. According to Hyman (1979:1), the teacher's questions serve a double purpose by their very nature in that in the first instance they encourage the respondent to think and in the second to think about a particular topic. Besides the two main purposes, there are several additional purposes, which the teacher can have for asking a question. For example, a question can be asked to:

- Get the learner to participate in a whole class or in a group activity
- Find out what the learner already knows about the topic
- Get a discussion started as another means of learner participation
- Attract learner attention
- Provide a springboard for the teacher to talk about a topic that is of concern to the teacher

- Give learners opportunity to shine before others
- Test their learning of material from various sources
- Initiate a lesson on cause and effect relationships
- Review what was discussed in smaller groups previously
- Determine to what extent learners can think by themselves (Hyman,1979:3)

Thus it is evident that there are many purposes for which the teacher can ask questions. Hyman (1979) suggests that some purposes may subvert the primary purpose of encouraging learners to think. One example is that of a teacher who uses questions as a technique for maintaining order. The learner is likely to be concerned with the threat that is meant to intimidate him/her, thus affecting his/her ability to think critically or creatively. This teacher would act in a 'duplicitous manner by pretending to be concerned with thinking while actually being concerned with control' (Hyman,1979:4). In some cases, where learners agree to play along by calling out the answers and accepting that the answer is usually a fact that has already been presented to them – some of the questioning serves the additional purpose of identifying learners who have been listening (Selley, 2000:41).

Another concern raised about questions that fail to achieve a learning purpose is that a teacher may use questions to make learners play the 'guess what is in my mind' game. This guessing game makes learners realize that their thinking is not valued as much as what the teacher has in mind, because the questions aim at making them think what the teacher wants them to think.

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Dillon (1988:59) suggests ten categories that constitute questioning behaviours. Each category enables the teacher to decide for what purpose the question will be used. These include:

- Usage – The teacher must decide whether to question or not to question.
- Quantity – The number of questions to ask will depend on the learning task. The teacher may ask few or many questions in order to elicit the required information, to stimulate debate, encourage critical thinking, etc.
- Types –the teacher needs to consider whether to ask higher or lower order questions.

It has been argued that stimulating learners to think requires the stimulus of questions. There are a number of questioning taxonomies from which the teacher can select in order to vary the types and levels of questions. The taxonomy used with the teachers for the language INSET course was developed by Barrett. (See Appendix F.) This taxonomy classifies questions according to whether the answer should be taken from textually explicit information, textually implicit information or information already in the mind of the learner. The taxonomy is divided into five broad levels of questioning that enables the teacher to select a variety of task words for the level of questions the teacher wishes to use. This kind of taxonomy is used to increase comprehension, particularly in relation to reading. The five broad levels of questions in Barrett's taxonomy as cited in Rees (1994:35 – 41) are:

- Literal questions – the question focuses on ideas and information which are explicitly stated in the text. Recognition is the key skill. The reader can locate or identify details, main ideas, sequence, comparison, cause and effect relationship and character traits.

- Reorganization questions which require the reader to analyze, synthesize, and/or organize ideas or information explicitly stated in the text. Reorganization tasks involve classification, outlining, summarizing and synthesizing.
- Inferential questions – the reader uses the ideas and information explicitly stated in the text, his/her intuition, and personal experience as a basis for conjectures and hypotheses. Inferential questions stimulate thinking and imagination beyond the text.
- Evaluation questions require the reader to make evaluative judgements by comparing ideas presented in the text with external criteria provided. The criteria can be from external written sources, the questioner (teacher) or the reader's experiences, knowledge or values. The judgement can be on reality or fantasy, fact or opinion, adequacy and validity, appropriateness and/or worth, desirability and acceptability.
- Appreciation questions call for the reader to be emotionally and aesthetically sensitive to the work and to have a reaction to the worth of its psychological and artistic elements.

According to Dillon, the emphasis in the educational literature is upon asking higher order cognitive rather than lower order fact, memory and knowledge questions. The assumption is that higher order questions elicit more complex thought-processes and longer responses (1982:143). However, if the teacher is to use questions effectively, Dillon suggests that as much as higher order questions receive recognition above others, different types of questions need to be asked to enable learners at different levels of cognition to have an opportunity to participate in the classroom.

Sanders (1966:24-25) proposes that attention to definition, generalization and values is important in framing good questions. He argues that the form of knowledge is generally the most important and worthy of learning. In addition, he says that teachers are likely to find it much easier to compose questions that require a variety of intellectual activities if they concentrate on generalizations and values. He argues that educational research indicates that widely applied generalizations and values are less likely to be forgotten than most other forms of knowledge. He further states that educational psychologists conclude that the best way to prepare learners for an unknown future is to instruct them in the use of generalizations and values that are likely to have fruitful application.

2.3.2 Types of teacher questions

After an attempt at describing types of questions from various classification systems which researchers have proposed over the years, Gall (1970:708) argues that Bloom's taxonomy is the best in that it 'represents the commonalities that exist among the systems'. The taxonomy consists of a limited number of general categories, which can be used to classify questions irrespective of context. It includes categories that require knowledge, comprehension, application, analysis, synthesis and evaluation (Gall, 1970:709). However, Gall argues that the question-classification systems such as Bloom's are almost entirely of categories based on the type of cognitive process required to answer the question (Gall, 1970:708). The taxonomy focuses on the types of questions asked by teachers when their purpose is to test learners' recall of information or to develop their critical thinking processes. Bloom's taxonomy ignores other worthwhile questions that 'can cue learners to improve on an initially weak response to a question; questions that create a discussion atmosphere; questions that

stimulate learners' sense of curiosity and inquiry and questions that guide learners' learning of a problem-solving, behavioral affective skill' (Gall, 1970:710).

According to Adhami (2001:28) whole class activity is frequently structured around some given questions that guide and steer learners towards generalizations, connections and higher order thinking in relation to the context or topic. In discussing a study of teaching in mathematics classrooms Adhami suggests that two types of questioning strategies used for teaching mathematics seem to have stimulated learner involvement. He refers to both *strategic and tactical* types of questions as responsive. The *strategic* questions are formulated through analysis of the task and through judgement on the range of attainment, of more general ability in a class and are general and pre-defined. The *tactical* are specific, dynamic and creative (ibid:28).

Adhami regards responsive questions as a 'to-and-fro flow of questions and answers' (2001:32). The mathematics examples he uses indicate and reflect that responsive questioning involves the teacher in managing the tension between the proposed agenda for a lesson, and the range of ideas generated by the learners in a particular class. The process starts with a *strategic* question, which is followed with a related but more focused question. This question can be termed a *tactical* question because it represents an ad hoc response to the emerging conditions in the particular class (ibid: 32).

Adhami suggests that in order for teachers to be effective questioners they need flexible knowledge of the activity and topics involved, including common misconceptions, and of the different connections that can be made between lower order and higher order concepts. Teachers also need to accept and engage with learners' ideas in their own language where possible. In addition, they need a sense of 'optimum', or 'best

possible' decisions in a given classroom situation. Every class and every lesson is different, and teaching involves continuous adjustments in response to the unfolding scene. The teacher is expected to engage with various contributions while simultaneously keeping an eye on the overall agenda. For Adhami, a lesson is successful when learners have met personally meaningful challenges and moved in their thinking, (2001:33-34).

Dillon (1988:60) describes the types of questions that the teacher can choose to use as closed and open questions, factual and opinion, lower and higher order questions. Morgan and Saxton (1994:63) provide a glossary of types of questions as follows:

- The closed question asks for the short, right answer or one that may be answered by a 'yes' or 'no' answer. Some closed questions can be recognized by the use of the interrogative structure of verb/noun such as: 'Have you?', 'Will you?' or 'Is it?', etc. The closed question is useful for testing recall, focusing attention, obtaining information and for fast tracking the lesson if the teacher wants to avoid discussion. Most learners at different levels can easily engage with these kinds of questions, as they are usually not required to put anything of themselves into the answer.
- The open question suggests that the teacher has no one particular answer in mind but is inviting learners to consider and advance many possibilities. Many answers are 'possible' in response to this kind of question. Young regards the concept 'open/closed' not to be an open and shut case. A question might be relatively 'open' in one way but 'closed' in other ways (1992:91).
- Factual questions require the answer to be based on given facts. For example, in response to the question 'where does the sun set?' the known fact is that the sun appears to set in the west. Opinion questions on the other hand, require the learners to infer and give their own opinion based on the question.

- Lower order questions ask for knowledge, comprehension and application. The questions demand less complex and lower levels of thinking. Higher order questions ask the learner to analyze, synthesis or evaluate. For these kinds of questions there is a demand for more complex and higher order levels of thinking.

The division between lower and higher order questions is associated with the categories of Bloom's taxonomy. The categories imply that questions are constructed in a hierarchy from the simple to the more complex. The aim of the teacher's questions could be to accommodate or encourage participation of learners at all levels of thinking.

Morgan and Saxton (1994:62) note that many writers give different names to the same or similar question functions and that some names are umbrellas that cover most other kinds of questions. For example, the 'closed' and 'open' questions can be regarded as representing or including various kinds of questions. The teacher would then choose the types and levels of questions based on the purpose of achieving particular outcomes. The teacher's use of open-ended questions is presumed to produce longer responses (Dillon, 1982:145).

Timing is regarded as important when asking questions. A lesson may be planned to have questions at particular points with a purpose of keeping learners engaged or to check if they are following an explanation. Timing is also related to the sequence of questions and the pace or rate of questioning. For example, teachers need to decide whether to ask follow-up questions or not, how fast to pace questions, how long to wait for answers, etc. (Dillon, 1988:61). According to Tobin (1987:87) 'time is an important instructional variable when high cognitive level learning is the objective. The silence

provides the teacher with time to think and to formulate and use high quality discourse that will influence the thinking and responding of learners.'

2.3.3 Teacher handling of responses

How the teacher works with responses from learners is important for learning. Some teachers have a tendency to answer their own questions. This can be done to lead learners to think about a required answer, whereby the teacher gives a clue, as in 'the word starts with the letter X'. In some instances, the teacher repeats an answer regarded as 'defective' by changing or paraphrasing it to emerge as correct, even though it is still 'purporting to be a representation of pupil speech' (Young, 1992:113). The learner's 'incorrect or imperfect' answer is reformulated without acknowledging that the correction has been made or expressing the reason for the correction. This is referred to as embedded correction, as it does not 'require any interruption to the focus on the content under discussion' (ibid: 113). Young argues that this embedded correction 'not only robs the pupils of the opportunity to respond to the truth or validity claims being made, but by reserving this kind of response for the teacher, it finishes up by requiring the teacher to do the learning instead of the pupil' (Young, 1992:114).

A teacher can create a positive learning climate in the classroom by the way he/she handles learners' responses. Acknowledging a good answer by repeating what the learner has said, and/or praising learners with words such as 'good' or 'that is a wonderful idea', can encourage learners to participate with enthusiasm. Undoubtedly, questions and teachers' responses to learners' answers play a significant role in the pedagogic process. Praising the learner is good for encouraging positive learning. It can equally be appreciated when the teacher gives help to the struggling learner through probing or paraphrasing the question. This would be useful to enable the learner to use

his/her maximum ability in answering questions (and thus, in achieving particular outcomes).

Selley describes what she terms a behavourist approach to questioning. This is characterised by the teacher praising right answers but failing to give sufficient clues to help learners who are struggling to answer (2000:42). If learners are not sure of the answer they are unlikely to volunteer an answer to avoid the shame that failure can bring. The teacher has power as he/she is acting as teacher and referee. Only what he/she approves 'finds a place in the outcome statement' (ibid:42). In this kind of question and answer activity learners are unlikely to object to a proposition or participate in debate.

Though the teacher may find it gratifying to have learners respond correctly to questions, the learner with the right answer but for the wrong reason may not have learnt anything. Selley (2000:42) proposes that for a teacher to get satisfactory outcomes from learner participation in any learning process, it is good to view learning not just as getting to know the right answer, but knowing why it is right. 'Knowing how to reason something out, and being aware of one's thought process while doing so, is part of metacognition. The concern is that only a few learners may know the answers, and the question is 'what is happening to the rest?' According to Selley, this lack of focus on metacognition is common practice in classrooms and nothing much is done to counteract it, either by teacher or learners. Selley argues that where a teacher uses 'external motivation of praise, stars and marks the concentration is on the responses, or approved end-point' while ignoring the internal processes of rationality' (ibid: 42).

The notion that 'learners do not know enough to be able to think the problem through unaided, that they have no patience to listen to one another is not going to help teachers change the classroom situation to actively involve participatory forms of conversation' (Selley, 2000:42). It is for the teacher to consider both small group and whole class discussions based on questions as strategies that will enable learners to be involved more seriously in making meanings.

Selley (2000:43) suggests to teachers that their role in managing question and answer dialogue or whole-class grouping should be to adopt a neutral and non-committal position rather than acting the part of 'teacher-as-examiner'. This means that the learner's response is not to be judged immediately as right or wrong, but left open as an invitation to others to give their support. For example, if the teacher were to say 'yes, does anyone want to add to what X just said', or 'who agrees or disagrees with Y?' learners would feel equipped to see their contribution as important to the process of teaching and learning. Moreover, learners would get 'a chance to consider the question, individually and to decide what seems to be well founded' (ibid: 43). This does not mean that the teacher cannot intervene, to correct errors since 'little would be gained by learners in arguing from erroneous data' (Selley, 2000:43).

2.3.4 Learners' questions

It is unfortunate that learners' questions are not always given priority during the process of teaching and learning. Moll (2001:112) argues that learners' questions offer a perfect opening to start teaching when the teacher gets access to the individual learner's interests in seeking knowledge on a particular subject. Questions are a reflection of a network of ideas in the mind of a learner and can be used to guide pedagogical action. 'Learner questions provide opportunity for teachers to investigate

how individual learners think and what their learning needs are' (Gultig, 2001:54). Dillon (in Gultig, 2001:54) argues that questions 'predispose' us towards learning in that a question not only asks for information, but also gives information about the questioner:

> 'When a learner asks a question, he exhibits his present and future complex of knowledge, his dispositions of character, and the dynamics of his relations to the world, insofar as these pertain to the matter in question'. (Gultig, 2001:54)

Learners' questions help the teacher to establish what learners already know and understand, and what they are ready to learn. In other words, they assist teachers to work with learners in their zone of proximal development (Vygostsky, 1978). When learners ask questions not only do they want to find information, they may also be giving the teacher information about what they already know. Some researchers believe that questions and often answers, offer a strong indication of a learner's readiness to learn and reveal things to others.

King argues that it is unusual to find classrooms in which learners ask a range of questions and the teacher actively encourages learners to engage in questioning as a way of improving learning and furthering understanding (1999:169).

The teacher's modelling of questioning is likely to encourage learners to ask better questions themselves. According to Morgan and Saxton (1994:112) there are two ways the teacher can model questioning. Firstly, the teacher can do it covertly where learners learn by osmosis, they hear the teacher ask questions – they absorb the style and use it themselves. Secondly, the teacher can model overtly by drawing the attention of learners to what is being modelled using a 'think-aloud' or talk-about' approach to demonstrate how one would consider how to ask or phrase a question. This modelling

can be used to encourage learners to appreciate and be interested in effective question making.

At times teachers may be intimidated by learners' questions to which they do not know the answer. The teacher is expected to accept the challenge. King (1999:171) suggests that the answer that matters is a question in itself like "how and where can we find the answer?' This is about acceptance but also giving back the responsibility to the learner to find the answer to the question – and this contributes to learning.

Learners' questions are sometimes met either with counter-questions or some other uncooperative reaction, as if to say 'look, I'm the one who asks the questions around here', (Dillon, 1981:53). Such a response indicates that the course of conversation is supposed to be controlled by one party, the one who asks the questions, and that the other party has to follow along by giving the answers and then awaiting the outcomes (ibid:53).

According to Dillon (1988:28) welcoming learners' questions is a move of surpassing importance. At first learners are likely to only ask questions that they think the teacher will want them to ask, but through trial and error they may find ways of asking questions that will be smart, thoughtful, surprising and stimulating (1988:29). If learners' questions are not welcome, 'it frustrates learning and the purpose of teaching,' (ibid:29). However, if a teacher instructs learners directly as to how and why questions are used but does not provide opportunity for learners to practice by using that knowledge, that would make the whole exercise futile. The teacher has to create an atmosphere or environment, in which learners' use of questions will flourish, (Morgan

and Saxton, 1994:114). Just like all other skills taught, questioning can be taught at any level in the curriculum.

Chapter 3: Research Methodology

This research is a case study of 'take–up' from a short course on questioning. Best (1977) suggests that a case study probes deeply and intensively, analyzing the interaction between the factors that produce change or growth. It emphasizes the longitudinal, showing development over a period of time.

The use of case study in a classroom can provide the researcher with a formal and fairly definitive analysis of a specific aspect of teaching behaviour or classroom life. In addition, the information yielded by case studies tends to give an accurate and representative picture (Hopkins, 1985:81).

Through case studies the researcher can come to recognize the complexity and 'embeddedness' of social truths. The researcher gets an opportunity to identify discrepancies or conflicts between his/her viewpoint and that of a teacher. Support for alternative interpretations is made possible. Through observation, data is easily accessible for the researcher's evaluation. The language and the form of the presentation is likely to be 'less esoteric and less dependent on specialized interpretation' (Cohen and Manion, 1994:123).

Bassey (1999:58) divides educational case studies into three types, namely:

- theory-seeking and theory testing case studies: these are about the study of general issues – aiming to lead to fuzzy propositions or fuzzy generalizations and conveying their context and the evidence to interested audiences;
- story-telling and picture-drawing case studies: these studies include analysis of narrative stories and descriptive accounts of educational events, projects,

programmes, institutions or systems which deserve to be told to interested audiences;

- evaluative case studies: these are inquiries into educational programmes, systems, projects or events to determine their worthwhileness, as judged by analysis by researchers, and to convey this judgement to interested audiences.

This study includes elements of both story telling and evaluative case study. Both the story telling and the evaluation are intended for teacher educators in universities and NGOs who may be interested in the discussion and conclusions arrived at from analysis of questionnaires, interviews, classroom observations and videotaped lessons. As stated in Chapter One the study focuses on teachers' 'take-up' of input from a short course on the use of questions.

After a 40 hour outcomes based education language course held at the former Johannesburg College of Education in June 2001, there was a time lapse before the researcher could identify teachers who would be part of the study. In order to identify and find teachers, the researcher had to rely on information provided on questionnaires that teachers were asked to complete at the end of INSET course. The course consisted of one week of intensive workshop sessions in July followed by a Saturday workshop in September.

Teachers completed the questionnaire at the September session. Because the questionnaires were completed anonymously, the researcher had to find teachers willing to engage in the second part of the study from schools named in the questionnaires. Letters were then sent to principals in schools in the south of Johannesburg that fell within a 50km radius of the researcher's home and work place. This geographic

restriction was to make it possible to access schools within the limited time available. The letter requested the principal to provide the name of a teacher[s] who attended the OBE language course, and to find out if they would be willing to participate in the research study. (See Appendix A.) After contacting a few schools, five [5] out of thirteen [13] teachers approached indicated that they would be willing to be interviewed and to be observed in their classroom for this study. They then signed a statement of agreement. (See Appendix B.) The request letter, the statement of agreement and the interview questions were approved by the Ethics Committee of the University of the Witwatersrand.

The reluctance of some teachers to be interviewed, observed or videotaped may have been due to their suspicion that the researcher was linked to the Gauteng Department of Education, who is their employer. Since the course was organised by the GDE, some teachers may have believed that the course presenters were monitoring them on behalf of the government. The researcher suspects that some teachers were reluctant to participate in the research project because they thought the information on their classroom performance would be passed on to government officials. Such response had not been anticipated when preparing for the selection of teachers, as the researcher's independent status could have been stated in letters sent to principals and also in the questionnaires.

The data gathering instruments used in the case study were:

i) Questionnaires

ii) Interviews

iii) Classroom observations – videotaped with one teacher, with the others (four) an observation schedule and field notes were used.

The three instruments were chosen to provide what Freeman (1996) terms methodological triangulation.

3.1 Questionnaires

Questionnaires are used in both qualitative and quantitative research. They are particularly useful when a researcher wishes to obtain information from a large number of respondents. From analysis of questionnaires it may be possible to establish patterns in the data and to use such patterns to inform subsequent stages of data collection in a research project, such as interviews and classroom observation.

At the end of a forty hour OBE course which was attended by Grade 5 language teachers, questionnaires were distributed to seventy-two teachers who agreed to respond to questionnaires based on the part of the language course that focused on questions in the classroom. The questionnaires were completed anonymously but the teachers were asked to give the name of their school so that the researcher could choose a number of schools for classroom observation. Other information requested was the teachers' qualifications and number of years of teaching experience. The teachers completed the questionnaires at the end of the course. It was clearly explained to them that the information was going to form part of the data for an MA research project. (See Appendix C(i) a blank questionnaire and C(ii) a completed questionnaire.)

The main aim of the questionnaires was to gather information about teachers' responses to the course input on questioning and its applicability to their classroom work. It is regrettable that the research was formulated only after teachers had attended the major part of the short course in July. This meant that questionnaires could not be

used to elicit from teachers how, when and why they used questions in their classroom prior to participating in the course.

Oppenheim (1966) raises a concern in regard to use of questionnaires for data collection. His concern is with the way a question can be interpreted and answered by a respondent who lacks the knowledge, facts, opinion or attitudes required. The response to question[s] may be clear and well organised, or it may be diffuse and vague. It also may be deep or superficial and express views that are latent or held very strongly. The respondent's process of producing his/her perception in relation to the question may be affected by wishful thinking or by a desire to please the research worker. This means that it is difficult to obtain a relatively unbiased answer even from a willing and clear-headed respondent (1966:50). Oppenheim's suggestion for the researcher is to make the task of data collection as practical as possible. The question wording needs to be as precise as possible and the researcher has to reflect carefully on his/her own questions (ibid:50).

According to Hopkins (1985:72) the structuring of questions should not be sophisticated. A questionnaire should be easy for respondents to complete. Its effectiveness depends on how well the respondent understands the questions, and how much time he/she makes available for completing the questionnaire (1985:74).

Only four questions were prepared for the questionnaires. For question one, teachers had to identify [from a list] the aspect of the course they found most useful and to give reasons for their choice. The intention was to find out which of the aspect/s of questioning were successfully understood and regarded as useful. Question two aimed

to find out from teachers if they had had opportunities to put into practice any of the questioning techniques they had learned and if they noticed any change in their classrooms. For the third question teachers were asked to describe changes that may have happened in their classrooms after using different questioning technique/s. The last question aimed to find out if teachers feel the need for further input on the use of questioning techniques.

One limitation of using questionnaires at the end of a course is that teachers may respond very superficially as they wish to be released from the course venue as soon as possible. The information may lack substance and make it necessary to collect additional data. Another general limitation of a questionnaire is that it is time consuming to analyze (Hopkins, 1985: 74).

3.2 Interviews

Interviews are regarded as a productive source of additional information both for a researcher who has used questionnaires, and for one who obtains data from classrooms she has visited. Interviews give the researcher an opportunity to verify information before moving on with a further phase of a research project. In this study, the researcher had opportunities to verify the information which teachers presented in the questionnaires. She also had informal discussions, based on her observation notes, with the teachers whose classrooms she had visited. The pre-observation interviews enabled the researcher to establish a cordial relationship with teachers whose classrooms would be observed. The teacher also had an opportunity to get to know the researcher's intentions in relation to the research project.

With interviews, the researcher's questions can be rephrased whenever there is misunderstanding or the question is not sufficiently explicit. The physical contact with the interviewee also helps the researcher to have a better understanding of the knowledge, understanding and attitudes of the interviewee as expressed paralinguistically. Interviews save time as the required information is gathered in a short space of time without having to use sophisticated apparatus. It is advisable that interviews be taped recorded, for transcription to be used at a later stage. The five teachers agreed that the interviews could be audiotaped. Each interview was subsequently transcribed in full. An example of the pre-observation interview questions is presented in Appendix D.

For this research project two interviews had been planned, a pre-observation interview and a post-observation interview. The post-observation interview was designed to find out from each teacher how he/she felt about his/her use of questions during the lessons observed, to find out what types and levels of questions they felt confident in using and why. Moreover, the researcher wished to find out if teachers would still repeat the same views on questioning as those presented in the pre-observation interview or whether there would be changes.

3.3 Observations

According to Cohen and Manion (1994:106) the case study researcher typically observes the characteristics of an individual unit. The purpose of such observation is to probe deeply and to analyze intensively the multifarious phenomena that constitute the life cycle of the unit with a view to establishing generalizations about the wider population to which that unit belongs. The observation types that can be used by the researcher include participant and non-participant observation. In the former, the

observer engages in the very activities he/she sets out to observe, he/she is one of the groups observed. The non-participant observer stands aloof from the group activities he/she observing. In a classroom situation, the researcher would sit at the back of a classroom coding every interaction between the teacher and learners by means of a structured set of observational categories (ibid:109). Cohen and Manion state that the type of observation undertaken by the researcher is often associated with the type of setting in which the research takes place (1994:109). In this study the researcher was a non-participant observer.

3.4 Observation Schedule

After four teachers had indicated that they would not be comfortable to have their lessons video taped, the other option for collecting data was to use an observation schedule. An example of the schedule is presented in Appendix E. This was used to capture how frequently types and levels of questions that were part of the INSET course were used in the classroom. The schedule was divided into three sections. The first section lists question types based on Barrett's taxonomy (outlined on page 23). The second section captures learners' questions and the last section captures how often learners were encouraged to interact with one another and/or the teacher through use of questions. Each section is divided into stages of a lesson in order to indicate at what point in the lesson questions and interactions occurred.

While considerable information for analysis may be collected and recorded during an observation, it is, not always possible to capture all information using an observation schedule. In the case of the questions asked during the observations the researcher could not be sure of recording all the examples of questions used during the lessons. There is sometimes very little time between the teacher's questions and learners'

responses. Sometimes more than one person may be speaking. It is also possible that the researcher can be disrupted or lose concentration and thus miss recording/tallying some of the data.

One limitation of the observations is that they focussed only on sections indicated on the schedule. In this case the research only recorded how frequently types and levels of questions were asked, and ignored other aspects related to the process of teaching and learning.

Sometimes some of the information was missed because the teacher's or learner's voice dropped. It is possible that the researcher's 'snap decision' to categorise questions in particular ways may have been inaccurate.

3.5 Video Taped Lessons

Video taped recordings are regarded as 'providing heuristic and accurate information for diagnosis' (Hopkins,1985:70). The researcher is able to use the recorded information without losing any of what happened during the observation. For this study, the videotaped lessons could capture additional data related to questioning, including how the teacher handled responses. A videotaped lesson can reveal interesting aspects related to the lesson which the researcher may not otherwise have considered. Unfortunately, only one teacher agreed to be videotaped.

According to Hopkins there are two concerns regarding the use of a videotape recorder. The first is that it is costly and that there must be a person with knowledge of how to operate the equipment. Secondly, the videotape recorder is considered to have a

potentially disruptive influence on the classroom behaviour. In this study, the learners appeared to pay little attention to the camera.

3.6 Kinds of data analysis

Data analysis marks an important turning point in the research process. Through data analysis inquiry is turned into understanding (Freeman, 1996:119). Most researchers describe data analysis as a process of disintegrating and reintegrating understandings. According to Freeman, the four basic elements of analysis are naming, grouping, finding relationships and displaying (1996:99). Freeman explains naming as being to do with the labelling of data. The researcher gives names to the patterns in the data. When names are collected into categories, this is known as grouping. Grouping of names from the data creates a structure around the data, and the structure provides a platform for the interpretation of data. Freeman suggests that during data analysis findings must be laid out in order to see the emerging whole of the interpretation – and this is called data display. It is the display that makes the interpretation concrete and visible. Data display is the 'process and product' of the research (1996:99-100).

In the analysis of data from this project, an attempt has been made at naming, grouping, finding relationships of patterns and displaying the findings from the data. The analysis has enabled the researcher to develop some conclusions and make some tentative recommendations based on the findings about 'take-up' from a short INSET course on questioning.

Chapter 4: Presentation and Analysis of Data

In this chapter I begin with the presentation and analysis of data from the questionnaires completed by sixty-three teachers three months after the conclusion of the short OBE course. This is followed by presentation and analysis of data from interviews and from classroom observations. Lastly data from the videotaped lessons in the class of one of the five teachers observed is presented and analysed.

4.1 The Questionnaires

The purpose of the open-ended questions in the questionnaires was to elicit from the teachers their response to the sessions on questioning and their reflections on 'take-up' of input from these sessions into their classroom work. A total of sixty-three teachers completed the questionnaires.

Teachers were asked to give some information – highest qualification, years of experience and subject taught at school, so as to ascertain whether there was any discernible correlation between qualification or years of experience or subjects taught and the responses offered by particular teachers. This information will be referred to when discussing data obtained from the five teachers on whom the researcher focused.

The questionnaire had four open-ended questions for teachers to answer. The following is the way questions were presented and how teachers responded.

4.1.1 Question One

The course on questioning included the following:

- purposes of questioning

- types and levels of questions
- questions and instructions

Which of these did you find most useful and why?

Twenty-three teachers identified 'types and levels of questions' as having been most useful, followed by twenty-two who chose 'purposes of questioning'. Fourteen chose critical questioning, and questions and instructions was chosen by six teachers.

Types and levels of questions

During the course teachers were asked to construct questions they would ask learners. These were based on a particular text. With the assistance of the facilitator they then differentiated their questions into two types of questions – lower and higher order. The learners' answers to the lower order questions had to be directly from the text, and the answers for higher order questions would reflect learners' thinking and own experience on issues related to the text. Then Barrett's taxonomy was handed out to the teachers as a reference with information on a range of task words to use in different types and levels of questions. These include literal, re-organisation, evaluation, inferential and appreciation questions. The different task words introduced that could be used for asking different levels of questions encouraged teachers to realise that there are alternatives to the 'wh-' questions that they mostly used in the questions they constructed.

In their responses to Question One five teachers gave no reason for their choice. The responses of fourteen of the eighteen who gave one or more reasons for choosing types and levels of questioning emphasized the importance of accommodating learners with a range of 'abilities' or 'cognitive level'. Three focused on using a range of types and

levels of questions in order to assess learners appropriately and two referred to teaching and learning - that is encouraging learners to think more – preparing learners for tasks.

According to Koufette-Menicou and Scaife (2000) classroom questions can help learners develop more effective and diversified thinking, which should prove valuable throughout their lives and enable them to become independent learners. In a classroom where a variety of lower-order and higher-order questions is used, there is a strong possibility that all learners will be challenged to think and learning will be encouraged at different learning levels. With the teacher who uses a range of types and levels of questions, learners are given an opportunity to participate and to 'express many different views' (Morgan and Saxton, 1994:7).

For the teacher to successfully use a range of types and levels of questions, he/she needs to analyze and reflect on the 'context and nature of the topic during which questioning takes place, the demands that questions place on learner, the appropriateness of the language of questions to the individual of group concerned and the effect of questions on subsequent learning and related activities' (Wragg in King, 1999:172). The responses of the fourteen teachers suggest that they had 'taken-up' the discourse of the course though there could be a difference between their espoused and enacted practices.

Purposes of questions

During the course, to establish whether teachers know the purpose of the questions they ask at specific stages of any teaching and learning process, they were given a picture on which to base sets of questions. With each set they had to state the purpose for asking the questions. After sharing their questions with another person, teachers could alter the

questions if the partner identified any problem relating to the purpose for which the question was asked. For each set of questions teachers found that they did not repeat the way they had asked questions in the previous set. The reasons were that at first questions were text based, and required learners to identify items in the picture. For the second purpose teachers said they wanted learners to associate items in the picture with their own experiences and to make them think about more than just what is presented in the picture. The discussion indicated that teachers had begun to understand how useful it is both for the teacher and learners if questions have been well thought out and have a specific purpose. This is because the sequence in which they are asked will usually move from the lower order kind of questions to higher order (though this sequence is not invariable). In addition, almost all learners will be provided with opportunities to participate in the classroom.

Of the twenty–two teachers who identified purposes of questions as most important, five gave no reason for their choice. The responses of most of the other seventeen can be grouped into three categories. Their responses are listed under these category headings:

a. Checking on or assessing learners' understanding – (10)
b. A guide for teaching – (2)
c. A support for learning – (2)
d. The other three teachers' responses are not easy to classify.

Generally questions are regarded by most educators and researchers as part of classroom discourses that spark ideas, provoke imagination and involve both the teacher and learners in a shared and creative learning experience. According to Dillon (1988:1) questions have seemed promising devices for eliciting learners' knowledge. It

is through questions that the teacher can assess both learners' prior knowledge and the comprehension of the new knowledge. In the process of teaching and learning, questions have different roles to play. Apart from eliciting prior or new knowledge, through questions the teacher can guide learning by means of scaffolding. To sum up, the effect of questions in the classroom, can be that our 'knowledge results from questions' (Postman in Morgan and Saxton, 1994:9). The teachers' responses indicate awareness that questions are significant tools for promoting learning and for encouraging thinking and participation.

Critical questioning

Critical questions, unlike traditional comprehension questions, do not focus the learner/reader exclusively on the author's meaning, but open up the possibilities for encountering texts in a different way. The type of questions point to the way power relations can shape discourse (Granville, 1997:205). Critical questions can engage a learner to give description, interpretation and explanation regarding the text at hand (Fairclough 1989, in Granville,1997:203).

During the short course critical questions were at first considered to be the same as higher order questions by many of the teachers. They were thought to be questions to stimulate learners' thinking about what they have read. What was of interest is that very few of the examples teachers gave were actually critical questions. Instead the questions, like any higher order question, required the learner to think, but still about the content. Most teachers had not practised using critical questions before. For example, questions like for whom is the text written, why are certain words used in the text rather than others that may have been known to most readers, to ask learners what they did not like in the text, how they could present the idea differently and others were