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Concept acquisition in geography of secondary school pupils

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more permanent than facts. They are the basis upon which the mind structures experience. It is, therefore, these concepts forming the foundation of the subject, that should be emphasized rather than numerous simple facts. Clearly some facts must be learnt, but it is better that these are acquired through the understanding of concepts, rather than as ends in themselves. Teachers should design questions which would demand reasoning rather than merely recalling facts.

4.12 Causes Of Failure

Most of the pupils (75,5%) blamed their teachers for failure. They said they do not understand what is being taught in class and therefore find it difficult to understand the material when they study at home, and that that makes them memorize a lot of material. There are also pupils who feel that because they did not do Geography in Standard Eight, they may fail because teachers usually ask questions in Standard Nine which have relevance to the Standard Eight work. 29,6% have indicated that their failure would be caused by the notes that teachers give them which are too difficult to understand. Pupils pointed out that most of the time they copy notes which are not explained to them, and that when they read them at home they fail to understand them. This again supports what has been said by 26,5% of the pupils elsewhere in this report when they mentioned that teachers do not give them time for discussion but that they are always taught and writing. 59,7% of the pupils when responding to the questionnaire, strongly disagree to the idea of being given notes on a chapter without the teacher's explanation and a further 33,1% disagrees to the statement. 5,1% agree to the idea whilst only 2% strongly agree with the statement (See Table 11 for an analysis of these responses).

TABLE 11 . Responses to the statement "I enjoy the lesson best when my teacher gives us notes on a chapter without explaining it". (APPENDIX D) (Question 17)

RESPONSES	SCHOOLS																			
	MI		ME		TAO		DA		VL		MU		TW		LU		TV		TOTAL	
	n	% of class	n	% of class	n	% of class	n	% of class	n	% of class	n	% of class	n	% of class	n	% of class	n	% of class	n	% of the total sample of 740
Strongly agree	-	-	4	8,5	2	5,9	7	6,9	2	2,3	-	-	-	-	-	-	-	-	15	2
Agree	10	10,3	5	10,6	2	5,9	2	2	6	6,9	2	2,4	2	3,3	-	-	9	5,9	38	5,1
disagree	29	29,8	16	34	7	20,6	42	4,6	29	33,3	35	41,7	17	27,9	31	40,8	39	25,9	245	33,1
Strongly disagree	58	59,8	22	46,8	23	67,6	50	49,5	50	57,5	47	55,9	42	68,8	45	59,2	105	68,6	442	59,7
TOTALS	97	100	47	100	34	100	101	100	87	100	84	100	61	100	76	100	153	100	740	100

n = 740 number of pupils who gave this response.

Most of the pupils say that they do not understand the Geography language in the textbook and that this will cause their failure.

4.13 Geography Periods

63% of the teachers feel that the Geography periods are not enough. Most of these teachers have seven periods a week. The argument put forward by these teachers is that with these seven periods, there would not be time for going out to the environment pupils are studying. One teacher representing 3,7% of the sample feels that the periods are not enough because most pupils have a very poor foundation which will mean doing a lot of remedial work. Only 40,7% find the periods enough and their argument is that they are almost proportional to the prescribed syllabus. From what has been reported by pupils, enough time is available but teachers do not know how to use it. When one considers the fact that teachers at times do not go to class and that most of them when they do go "dry up" before the lesson ends - only to face a class having nothing to do - one finds it useless to argue for more periods which are not going to be used meaningfully.

It is true that although Geography trips are generally regarded as excellent in theory, they have no place on the school time-tables. But excursions can be undertaken during the week-ends, that is, during the teacher and pupils' free time.

The writer feels that the Geography-periods are indeed not enough when one looks at the syllabus which is long, the sudden interruptions in school work by some political events, the examination time-table which is spread over a long period reducing the teaching time, and the demands made by pupils with unsound backgrounds upon the teacher.

4.14 Data Obtained From Pupils' Interviews

The pupils who were included in the interview program were selected randomly from all the Standard 9 classes in the sample schools and so were presumably fairly representative of the Standard 9 pupils in all the schools.

The writer also did not know the 1985 June Marks of the pupils before the selection was done. By so doing the writer wanted to eliminate the element of bias when interviewing pupils, for it would have been easy to give pupils with low marks a Zero score and those with high marks a score.

Pupils who understood the concepts were given one score and those who did not show any understanding were given a zero. Most of the concepts which were asked in the interviews were also asked during the mid-year examination.

For interpreting the size of r_s, the writer used figure 9 in Gibbon and Morris (1978, p.92) on the range of possible correlations and their usual interpretations. An r_s of between .00 - 0.2 would indicate probably no correlation; a 0.3 - 0.4 coefficient would show a weak correlation; between 0.5 - 0.6 the correlation would be regarded as moderate; and there would be a strong correlation if the r_s is between 0.7 - 0.9 0.05 significance level is used as the acceptance r[illegible].

The findings of the interviews of each school have been presented separately. The writer first calculated the r_s of different schools on her own, but in order to verify the results, calculations were carried out at the Computer Centre of the University of the Witwatersrand.

4.14.1 School 1:VL

The Spearman's Rank Order Correlation coefficient of 0,47, which is significant at 0,08 level, shows a weak relationship between the pupils' marks and their conceptual understanding in the interviews. The mean rank in the mid-year examination results was 41,5% and that of the interview totals was 25,6%. This gives the difference of 15,9% between the two ranks.

VL has only one teacher with a degree and he took Geography as one of his under-graduate courses. The rest of the Geography teachers did not take Geography as one of their method subjects in their teaching diplomas, and they are not even furthering their studies after those diplomas. The answer to the question why these teachers are teaching Geography without any training in it, should be found in the teacher's responses when asked which has been their best subject in all their teaching years and why they chose that subject. They indicated that Geography has been their best subject because it was easy to master. It may be that because the teachers' knowledge about the subject is not widened, it affects the way Geography is taught.

What was surprising to the writer was the realization that pupils were given a lot of marks in the June examination, and yet failed to show understanding of the concepts in the interview, most of which were asked in the mid-year examination. The allocation of marks here does not seem to be reliable.

4.14.2 School 2: DA

A weak relationship (0,44, significant at 0,10 level) was shown by the results of the r_s at this school.

The way in which Geography lessons are offered at this school may be affecting the way in which pupils understand concepts. It may be that when concepts are simplified and pupils are given examples of those concepts from their surrounding areas, they are better understood. The Geography teacher at this school was observed teaching a lesson on "The utilisation of resources" in Economic geography. Concepts such as Primary, secondary and tertiary activities were vaquely explained to pupils. The teacher gave examples without explaining the concepts; for instance, pupils were told that "primary activities are activities like farming and forestry; secondary activities are activities like changing a log of timber into planks and Tertiary activities are activities carried out by doctors and teachers". However, this lesson was not made practical by pointing out things around the pupils' environment as examples of concept that were taught, to help pupils understa.. the leson well.

After the lesson, the teacher indicated that there were no examples in the pupils' environment and that that made teaching in the rural areas difficult. This was found not to be true when the writer pointed out, as an example, that forestry was one of the Venda's most important industries at Tate-Vonde.

During the observation, the teacher read from the textbook and made some explanations on what was read. This teacher has one year experience in the teaching of standard 9 Geography. The fact that the teacher is not very experienced in teaching Geography may be the cause of his over-dependence on the textbook. On the other hand, the

teacher may not be feeling secure and confident when standing in front of a class because he is not academically qualified (The teacher has standard ten and the Junior Secondary Teachers' Course).

4.14.3 School 3: ME

At ME, the results of the correlation coefficient show a weak correlation (0,37) which is not statistically significant.

ME has a severe shortage of qualified teachers and the five teachers who have degrees are overloaded with work. Geography is taught by an academically qualified teacher but he also has four other subjects to offer, two in Standard Nine and two in Standard Ten. Unfortunately the teaching of Geography is often combined with that of one or more subjects in order to fill up the teacher's personal teaching schedules, or in order to help where there is a shortage of teachers.

Most interesting were the observations made in the classroom. The overwhelmingly, didactic presentational teaching style prevailed. There was a strange anomaly between ideals and practice. With the knowledge of Geography that the teacher has, he always wanted to make his subject interesting and to make pupils master useful skills and be able to apply those skills to relevant problems. There was a gap between these ideals and practice. The teacher relied on straight didactics and that ended up with pupils copying a paragraph of conclusions.

The gap between the ideals and practice may be caused by the many preparations the teacher has to make everyday, and this may explain the statistical findings at this school. The teacher may be overloaded with work because he is also involved in the teaching of other subjects to

the other classes. The many subjects that the teacher is offering may render him the "jack-of-all-trades" but may fail to make him a master of his subject.

The didactical presentational teaching style was blamed on the overloaded syllabus and the authorities' requirements on the school work. Certainly, the authorities are a very conservative element in the system. But as the writer probed deeper, it was uncovered that they were only part of the problem. There was nothing practical done by the teacher to liven the didactic presentation. However, this teacher is not professionally qualified. The teaching of Geography requires special techniques without which teaching could be disastrous. This factor may be affecting his teaching style since he may not be knowing the many methods of lesson presentation.

4.14.4 School 4 : LU

The correlation at LU is not statistically significant, for the value of r_s obtained (0,29) indicates that there is no significant correlation. The r_s obtained (0,29) is significant at 0,30 level. Perhaps the explanation to this correlation may be found in the fact that during the interviews, teachers indicated that Geography was difficult for them to comprehend, for they had not seen most of the things they were teaching about. If teachers have difficulties in comprehending what they teach, the same may be conveyed to pupils.

It is sad to realize that the Geography teachers at this school are not academically and professionaly qualified. Two teachers out of three are not professionally qualified and their highest academic level is Standard Ten. The one teacher who is professionally qualified has the JSTC (Junior Secondary Teachers Course) and this allows him to teach lower and not higher classes. Standard 9 Geography is taught by one of these professionally and academically unqualified teachers.

Teaching is characterized by a situation where professional judgement and decision-making must be exercised in order to guide the provision of appropriate instruction. There are of course basic "tools of the trade" - teaching techniques, knowledge and skills- which teachers are expected to have mastered. Teaching is however not a rote application of these tools in accord with a set of rules. Effective teaching is a process whereby teachers make reasonable judgements and decisions about the right tools to use in any particular teaching situation. The basic "tools of the trade" in Geography at this school are lacking, and this may be a great hindrance in teaching.

4.14.5 School 5 : MI

The value of r_s obtained (0,57) at MI is significant at the 0,05 level, thus suggesting a fairly positive moderate relationship.

One of the Geography teachers did not do Geography at any level of his studies, or as one of his method subjects. He is teaching Geography because there is no other subject he can offer. This may be causing problems in his teaching. In the pupils' questionnaire, pupils at this school mentioned that this teacher goes to class late and at times when he has double periods, he only teaches for one. It may be that as a Geography teacher, he is not an enthusiast who always inspires his pupils and keeps them abreast of the most recent geographical developments on the world front. He may not be an authority on his subject, and may not be able to activate his pupils to self-activity, so that they have the opportunity of thinking for themselves.

If teachers do not have subject meetings teaching may be affected even where there are qualified teachers, for if a teacher is meeting problems, there would not be a time of sharing ideas. This school is fortunate to have two more teachers who are completing their degrees with Geography as one of their major subjects. But during the interviews, the two teachers pointed out different problems they were encountering in the teaching of Geography, and they also indicated that they had never had a subject meeting since the beginning of the year. With no periodical refreshers and information meetings arranged by the authorities for the Standard 9 teachers, qualified, poorly qualified and unqualified teachers offering Geography may experience problems in its teaching.

4.14.6 School 6: TV

The r_s at TV is 0,67 and is significant at 0,1 level. This is statistically significant.

Among the pupils who were interviewed, 60% were repeating standard 9, and this was not known to the writer since the sample was randomly selected. Five of those repeating were repeating Standard 9 for the second time. These pupils got high marks in the interview and also in their June examination marks. Pupils who were not repeating performed badly with the exception of two.

One interpretation of this finding is that repeating a class helps pupils to understand some of the concepts. However, since pupils are eager to pass to the next standard, and since hardwork is required on their part to pass, it may be that pupils got other people to help them understand Geography. This may be the factor that caused pupils' subsequent better understanding of concepts and not the teachers or the teaching - learning situations.

The teaching - learning situation, as observed at this school, is still teacher-centred and not child-centred. The observed lessons offered by two Geography teachers were disappointing because there was a problem of not knowing the subject matter offered. One of the teachers had a serious problem of expressing himself in English. Both the teachers have only the JSTC (Junior Secondary Teachers' Course) and standard Ten.

The concepts which were taught during observations were not simplified for pupils; for instance, renewable resources were defined as "resources that can be renewed". One of the lessons offered lasted only for sixteen minutes and the last nineteen minutes pupils did nothing.

Teachers may not be giving themselves time to prepare their lessons well to fit properly into the time slot allocated to it, or they may be having problems with understanding the subject matter.

4.14.7 <u>School 7: MU</u>

The r_s at MU is 0,34 which is not statistically significant. There is a weak relationship between the pupils' Mid-year examination mark and their performance in the interview.

MU has two teachers offering Geography and one is both academically and professionaly qualified to teach Geography at high levels. When the qualified teacher was observed in class, he explained the concepts under study at length giving local examples. Use was made of the questioning technique during the lesson. In fact, the teacher introduced the topic by way of asking questions based on work done in the previous lesson. There was very little time wasted and fifteen minutes before the end of the period, pupils were given a short task to complete.

Appropriate self-made teaching aids were brought to class to help pupils understand the lesson. This teacher only started teaching at this school in April this year.

The other teacher who has been teaching Geography for three years at this school, has the JSTC and standard Ten. During observation, this teacher went into the class and started right away with a new lesson without refering pupils to the past lessons. Pupils of different abilities were treated as one. It may be that when teaching methods which treat the whole of a class as a single Unit are used, pupils experience problems of understanding concepts. The lesson consisted mostly of teacher input. In the subsequent discussion with this teacher, the writer was told that the background knowledge of the pupils was poor and that more could not be done because the teacher had a lot of work to cover.

4.14.8 School 8: TW

The results of the r_s show that there is a moderate positive relationship of 0,51 significant at 0,05 level.

Interest in the subject one is offering contributes, to some extent, to the achievement of the pupils. Geography is offered by two teachers at TW. One of the teachers is just about to complete Geography as one of his major courses at a University level; and his interest in the latest geographical developments gives him an influence and a background which surpass those of the other teacher who is teaching Geography only because he has to. The other teacher is only qualified to teach History at higher levels but he finds himself teaching Geography which he is not qualified for. He confessed that he had never liked Geography and that he was experiencing a lot of problems with it.

The problem of misallocation does certainly affect teaching. During the lessons which were observed when this teacher was teaching, pupils spent a lot of time copying notes and little teaching took place. This may explain why there is no strong relationship between the pupils' June marks and their performance in the interview, because there is very little explanation made by the teacher. This teacher indicated that he devotes more time to the teaching of other subjects than Geography, and that he takes the latter, as a supplementary subject in his teaching programme.

A teacher should be able to teach what he has qualified to teach. Because of shortage of teachers, some teachers find themselves teaching what they are not interested in and such teaching without interest has a concomitant disadvantage to pupils. As Moja (1982, P.70) has it, if the teachers are not interested in the subject, "then how is it possible for them to motivate the pupils to see the importance of the subject and to have interest in the subject".

4.14.9 School 9: TA

The correlation coefficient (0,61) shows a fairly strong relationship significant at 0,01 level and this is statistically significant.

One would expect to have a very strong relationship here because the Geography teachers are well qualified academically and professionally. There are also a variety of teaching aids and pupils are taken out to do fieldwork. During interviews with pupils, it was found out that a lot of pupils have been given low marks in the June Examination whereas in the interviews their understanding of concepts was very high. Teachers here seem to be strict when marking pupils' work. This was shown by the mean rank in the June results which was 38,5% and that for interviews was 55%.

The writer also went through pupils' test books. Pupils who did not have clear understanding of concepts asked, were not given any mark even though they wrote something with some indication of knowing the concepts. To help pupils understand what they were taught about, pupils are asked to go and make summaries in their own words and those summaries are checked by the teachers, that is, teachers go through pupils' notes, correcting [illegible]kes so as to help pupils learn the right things. What has been made clear to the writer during observations was that teachers were confident and secure when standing in front of a class. It may be that when a teacher is academically and professionally qualified, he becomes confident and secure, for he has a lot of knowledge about the subject he is offering. Teachers may also be strict in marking, more especially those that are well qualified, perhaps because they want pupils to understand fully.

4.14.10 Conclusion

From this evidence, the interviews that the writer conducted may not be adequate in sampling pupils' conceptual knowledge in Geography. But, the school examinations may have a similar weakness.

What has emerged from the interviews is that better qualified teachers appear to produce better pupil test results. Pupils taught by better qualified teachers are rated more highly on the interviews into their concept formation. Also, better qualified teachers appear to be confident and secure in their classes than those not well qualified, for they allow pupils to question them freely.

The interview ratings would generally have given greater credit for geographical knowledge than that indicated by the mid-year examination mark. A weakness in the interview structure was the limitation of geographical knowledge to physical Geography and the exclusion of human and regional Geography.

Pupils' Geographic weakness in this interview was that most of them did not show any understanding of the atmospheric pressure and the horizontal pressure differences. Particular difficulties were associated with a concept used everyday in Geography, the atmospheric pressure. Pupils who did Geography in Standard Eight were not much better than those who did not do it at explaining the atmospheric pressure. The cause of atmospheric pressure and the causes of differences in air pressure were not known to most pupils (52%). As a result of this, ambiguities arised as to what pressure gradient was and grasping this concept was made unnecessarily difficult. Most of the pupils who were able to give the definition of pressure gradient Verbatim from the textbook, were not able to explain what it meant when asked.

A much poorer performance was found on the coriolis force and pressure gradient force. The inadequacies in these concepts may be attributed to the fact that the concepts of atmosphere, atmospheric pressure and pressure gradient, which are prerequisite to the understanding of Coriolis force and pressure gradient force, were not well conceptualized. The level of understanding of the pupils from urban schools was higher than that of the pupils from the rural schools.

Pupils who showed an understanding of the atmosphere well, did not have difficulties in understanding the atmospheric pressure, the horizontal air pressure difference and the pressure gradient.

CHAPTER 5

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary and Conclusions

The central purpose of this study was to investigate the causes of difficulty experienced by Standard Nine pupils in acquiring geographical concepts. The study was also going to focus on intervention methods to help pupils acquire concepts so that they can be able to transfer them to other situations.

The results of this study show that pupils have difficulties in understanding concepts. One of the difficulties which teachers felt that pupils experienced was the lack of sound background either because pupils were taught Geography by ill-equipped teachers in the lower classes or because they did not do Geography in Standard eight. Another important point (affirmed by 70,4% of the teachers) was the pupils' failure to link what they were taught with what was obtained outside the classroom.

Most of the pupils felt that they experienced problems in understanding concepts because they are not taken out to see things in reality (84,3%). More serious were the 82% affirmations from the teachers who put the blame of pupils' difficulties in understanding geographical concepts on themselves. Teachers indicated their awareness of the problem they were creating for pupils by not making Geography practical to them. Almost all the teachers felt that they were not teaching effectively because of the extensiveness of the Standard Nine syllabus. 30,6% of the pupils regarded the textbook used in Standard Nine as difficult to understand. Pupils also reported that there were no teaching aids used to help them understand lessons better. Another point that emerged was that pupils complained about the unavailability of time for discussions when they are being taught.

The problems/difficulties mentioned here suggest that there are major problems in the teaching and learning of Geography. Teaching, as Osborne and Wittrock (1983, p.505) put it, "involves helping pupils to generate appropriate meanings from incoming informati[illegible], to link these meanings to other ideas in memory, [illegible] to evaluate both newly constructed ideas and the way old ideas are related in memory". Teachers should not ignore helping pupils acquire prerequisite concepts due to the demands of the syllabus that the more complex areas of Geography be covered. If teachers ignore this, pupils will always find Geography very difficult to understand and possibly only arrive at a level of rote learning of geographic 'facts'.

From the interviews conducted with the pupils, it was found that little emphasis was placed on basic concepts. Many pupils did not appear to understand the concepts included in the study. This is supportive of the assumption made by the writer that pupils' prerequisite concepts affect their understanding and acquisition of the concepts under study. If teachers want teaching to lead to meaningful learning, they should try and determine the existing level of understanding concepts among the pupils. As Ausubel (1968) rightly states "the most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly."

This study has been limited to Physical Geography only. While this counted as an advantage in that it allowed the writer to concentrate on sample concepts from a specific area, it is also a disadvantage in that pupils may have performed rather better if concepts from human and regional Geography had been included in the study. A further study could be carried out involving concepts from the two areas and encompassing a greater variety of procedures.

5.2 Recommendations

It is quite clear from the findings at hand that justice is not done to the method of learning by observation. Fieldwork should be regarded as part of the Geography-teaching programme and as such Geography-teaching should include a continuing element of observation in the field. A carefully thought out concept-building element can be included in fieldwork, and undertaking fieldwork regularly in local areas and also in contrasting environments will enable pupils to assemble worth-while information about concepts. On the other hand, schools must be prepared to accept outdoor fieldwork as the normal basis of Geography. Most pupils obtain new knowledge on their own through fieldwork and this gives them a general educational stimulus. If excursions cannot be made to fit in with the time-table of a school, week-ends and holidays can be utilized.

Pictures should be used at schools especially where direct field study is not possible. Every school should try to make a collection of pictures that could be of use when dealing with a section that may not be studied outside. Graves (1975) contends that the use of pictures seem to make teaching more effective and so enhances interest. Most teachers argued that it is difficult to teach unmotivated pupils. Motivation is part of the teachers' duty and teachers must try and stimulate interest in pupils so that learning can take place (Graves, 1975). The use of inappropriate teaching methods will exacerbate the problems of motivation. Thomas (1978) argues this point also by saying that methods of teaching which treat the whole class as a single unit will worsen the motivation problems, however potentially stimulating the academic material may be.

Language is very important in learning. The use of jargon in the classroom would create an impenetrable barrier to communication. The quality of classroom learning depends very largely on the extent to which pupils can actively use language in the solution of academic problems (Thomas, 1978). One of the findings of this study is that most teachers have difficulties in expressing themselves in English. These difficulties will certainly be conveyed to pupils. To improve both English medium teaching skills and raise the level of teachers' personal competence in English, teachers should have tuition directed at the problem of English as a second language in a College of Education. An expert methodologist in English as a medium of instruction should introduce the possible teaching strategies and approaches in this area.

The extensiveness of the Standard Nine syllabus is a cause for concern. A syllabus which is overloaded with masses of facts which have to be crammed by the pupils, does not offer them enough time of arriving at independent thought by means of interpretation, deduction and explanation. It would be better to cover less content with an increase in authenticity. A substantial prunning of the Standard Nine Syllabus could allow for a greater concentration on the study of relatively few topics in greater depth. It would therefore be worth the while of the authorities to determine whether the syllabus is overloaded and whether there are other problems which prevent the teachers from covering the syllabus in an adequate manner.

Climatology is needed in order to provide pupils with some sense of their place in the world and how that world works. Teachers' understanding of dynamic climatology should be improved. There must be the production of curriculum materials which can help teachers to achieve satisfying classroom experience with the climatology part of Physical Geography.

Teachers should make use of teaching aids to a greater extent than is the case at present, to help pupils understand concepts. These aids are indespensable in making the teaching of Geography meaningful, topical pleasant and lively and are important for sustaining the pupils' interest in the subject. The teaching of Geography is affected unfavourably by teachers who do not fully realise the value of teaching aids. The educational authorities should make sufficient provision for the various teaching aids required by the teachers, since it appears from the investigation that most schools do not have teaching aids. Since all schools cannot be equipped with suitable aids, groups of schools can share aids. One successful way of providing various teaching aids to schools is to have a resource centre at every circuit which is well equipped. Pupils from different schools can take turns in using aids at the centre.

Many pupils are compelled to take Geography as a result of the subject choice at their schools. There is an unsound subject combination in schools that does not allow pupils to take subjects they want, and as a result, pupils start with a new subject like Geography at higher levels without any background knowledge of it. Most curricula found in schools are not based on the ability of pupils but they are teacher-centred. This should be revised, and a variety of subjects should be included in the curriculum and pupils' abilities should be taken into consideration when choosing matric subjects for a particular child.

Geography suffers from the fact that it falls into the hands of a master who has no special knowledge of it or of its methods and takes no special interest in it. Geography should not be taught by someone with no special qualifications or training, as is the case in

many schools in Venda, because it has its own approach and it requires special techniques that it needs teachers who are specialists in just the same way as do the other subjects.

Most teachers are both academically and professionally underqualified to teach Geography at higher levels. Teachers who are academically underqualified to teach Geography should be encouraged to take Geography as a formal course at University level in order to widen their knowledge. This would help make them masters of their subject. In-service education in Geography would offer opportunities to extend knowledge and to meet with other teachers where ideas can be shared. This is needed for qualified teachers so that they can keep abreast with changes and developments in Geography. In-service education must also aim at upgrading underqualified and unqualified Geography teachers. To secure intelligent and systematic teaching in Geography, subject meetings should be held where discussion of methods and problems, combined with laying down of the law on the subject would help raise the level of Geography-teaching.

Teachers in the field need skill-specific and subject advice. The new Geography teachers would need an induction-cum-probation programme, where he is initiated successfully into his professional career in a specific school. There is no programme that is deviced for newly qualified teachers in schools. Many teachers are trained in classroom management but they really need assistance at school when they start teaching. There should be subject-specific advisers or supervisors who will visit schools, advise teachers and help raise the level of learning and teaching in Geography.

The Subject-Specific advisers would greatly help in making new teachers practice activity methods of teaching which they were taught instead of adopting the "survival teaching traditions" used by old teachers in the field. The effects of the College or University upon the new teacher are mostly weakened and "washed out" by school experience. Hawes (1979) writes that survival teaching traditions

> ..."all contribute towards maintaining authority, reducing pressures, saving time, achieving passable examination results. They lead to a formal, didactic, teacher-centred approach, they operate with devastating force upon teachers newly trained in 'activity methods', but in the tough, bleak conditions which obtain in some schools they may well represent the only possible alternative for a struggling teacher to adopt."

The help provided by highly qualified Geographers in positions of advice would help teachers not to conform to the way in which pupils are taught in schools.

The majority of Geography teachers rely on the telling and lecture methods as their primary teaching approach. This practice is not surprising since there is a tendency to teach as one was taught. Other methods of teaching concepts should be considered and may be more effective than the traditional expository lessons.

It is ofcourse true that large class sizes and lack of awareness of teaching techniques also account for the prevalence of the telling method. Research findings about teaching techniques in the third world show the prevalence of fact-giving techniques (Avalos 1980).

The reasons for using these techniques are that teachers are overburdened with teaching work, administrative and disciplinary work so that there is no time for the cumbersome task of setting up problematic situations for learning or preparing materials. While lack of materials and large class size play a part in influencing the teaching of Geography, teachers should remember that they need to do their best in teaching pupils so that they (pupils) do not learn things in a parrot fashion.

In teaching concepts, teachers should define concepts in simple words and give explanations of examples and non-examples when teaching concepts, because when instruction consists of a single definition and one example, pupils may acquire misconceptions (Merril & Tennyson, 1977). Teachers should help pupils develop skills in discrimination and generalization when teaching concepts such that pupils would be able to examine newly encountered examples and non-examples for the presence or absence of the attributes. This work should include a notion of going out to the environment which the pupils are studying, to enhance concept learning and promote greater understanding.

Teachers should encourage participation by pupils in a lesson. There should be enough time for discussion and this will enable pupils to understand what they are studying about. Most teachers discourage discussions because they are often ill-equipped for their teaching task and they are trying to teach beyond the level for which they have been prepared both academically and professionally.

There is no such thing as a single perfect textbook. The teachers must supplement the textbook he uses with other books.

Conceptual understanding is indespensable for effective learning and pupils must gain an understanding of the concepts which are fundamental organizational concepts in Geography. A high failure rate in Geography will persist if teachers are not arranging the learning environment in a way that concepts will be acquired meaningfully. Geography teaching that is not supplemented by field and picture studies becomes very difficult for pupils to understand. Discussions are indispensable in teaching Geography because these enable the teacher to detect if pupils have learnt or processed the central concepts. If teachers are not interested in Geography, this will affect the way they prepare and present lessons. Geography must be taught by teachers who are enthusiastic and above all well qualified to teach the discipline by virtue of their academic and professional education.

BIBLIOGRAPHY

ANDERSON, R.C. (1977). "The notion of Schemata and the educational enterprise" in R.C. Anderson, J F Spire and W E Montaque, schooling and the Acquisition of knowledge. Hillsdale, M J : Erlbaum.

ANDERSON, R.C., FAUST, G.W., RODERICK, M.C., CUNNINGHAM D.J., & ANDRE, T. (1969) Current Research on Instruction. New York: Prentice-Hall, Inc.

ANDERSON, R.C. & PITCHERT, J.W. (1978). "Recall of Previously unrecallable Information Following a Shift in Perspective" in Journal of Verbal Learning and Verbal behaviour. Vol.17, No.1, February, pp. 1-12.

AUSUBEL, D. (1968). Educational Psychology. New York: Holt, Rinehart & Winston.

AUSUBEL D (1969) Readings in School Learning. New York: Holt, Rinehart & Winston

AVALOS, B. (1980). "Teacher Effectiveness: Research in the Third World - highlights of a review" in Comparative Education. Vol. 16 No. 1 March. pp.45-52

BAILEY, P. (1974) Teaching Geography. Canada: Douglas & Charles Ltd.

BECKEDAHL,H.,de VILLERS,J. & EARLE, J. (1979). Geography Field Studies For Transvaal High Schools. Teaching Resource Book No. 3.

BEESON, G.W. (1981). "Influence of knowledge context on the Learning of Intellectual Skills" in American Educational Research Journal. Vol. 18, No. 3, pp 363-379.

BELL, B.F. (1981). "When is an animal, not an animal" in Journal of Biological Education. Vol. 15, No. 3, pp 213-218.

BENGSTON, J.K., & COHEN, S.J. (1979). "Concept Acquisition and the Perception of meaning" in Contemporary Educational Psychology. Vol. 4, pp. 348-365.

BESTER, C.G.F. (1985). "fieldwork" in Educamus. May. p.30

COHEN, L., & MANION, L. (1980). Research Methods in Education. London: Croom Helm.

COLLIER, E (1982). "When Education Doesn't Educate" in Rand Daily Mail Eve. January, 7. p.4

COSPER, R. (1972). "Interview effect" in Sociology quartely Vol 13.

COTTON, J.W., GALLAGHER, J.P., & MARSHALL, S.P. (1977). "The Identification and Decomposition of Hierarchical Tasks" in American Educational Research Journal. Vol .14, No. 3, pp. 189-212.

DAHLGREN, L.O. (1978). "Students Conceptions of subject-matter" in Research Associate Institute of Education. Vol. 3, No. 1. pp. 44-51.

DAVIS, R.H., ALEXANDER, L.T., & YELON, S. (1974) Learning System Design: An approach to the improvement of instruction New York: McGraw - Hill Book Company.

EHRENBERG, S.D. (1981). "Conceptual Learning: how to make it happen in the classroom" in Educational Leadership. October, pp. 36-43.

FINLEY, F.N. (1982). "An Empirical Determination of concepts contributing to successful performance of a science process: A study of mineral classification" in Journal of Research in Science Teaching. Vol. 19, No. 8, pp. 689-696.

FREER, D.J. (1983). "Teach the teachers slowly, the children will benefit" in South African Journal of Education. Vol. 3, No.2, pp. 90-94.

FREIRE, P. (1970). Pedagogy of the Oppressed. Penguin Books.

GAGNE, R.M. (1977). The Conditions of Learning. New York: Harper & Row.

GRAVES, M.J. (1971). Geography In Secondary Education Bristol: Wright & Sons Ltd.

GRAVES, M.J. (1975). Geography in Education Heinemann.

GIBSON, C.T., & MORRIS, L.L. (1978). How to calculate statistics. California: Sage publications, Inc.

GILBERT, P.G.S. (1981). "The Science Education Centre, University of Zimbabwe" in The Zimbabwe Science News. Vol. 15, No.6. June, pp. 139-143.

GOODWIN W.L., & KLAUSMEIER, H.J. (1975). Facilitating student Learning: An Introduction to Educational Psychology. New York: Harper & Row.

HALL, R. (1982). "Key concepts: A Reappraisal" in Geographical Education Vol. 4, pp. 25-34.

HAWES, H. (1979). Curriculum and Reality in African Primary Schools. Longman Group Ltd.

HELBURN, N. (1979). "An American Perception of British Geography" in Geography. Vol. 64, pp. 327-333.

HEWSON, W.H., & HEWSON, M.G.A (1984). "The role of conceptual conflict in conceptual change and the design of Science instruction" in Instructional Science. Vol. 13, pp. 1-13.

HEWSON, M.G.A. (1982). Students' Existing knowledge as a Factor Influencing the Acquisition of Scientific knowledge. PH.D Thesis. University of the Witwatersrand.

HUDGINS, B.B. (1976). Learning and Thinking. Illinois: Peacock publishers, Inc.

KERLINGER, F.N. (1973) Foundations of Behavioural Research. New York: Holt, Rinehart & Wintson.

KLAUSMEIER, H.J., GHALALA, E.S., & FRAYER, D.A. (1974) Conceptual Learning and Development: A cognitive view. New York: Academic press.

LAZAROWITZ, R. (1982). "Teaching Biology concepts to Disadvantaged fourth-grade pupils" in Journal of Biological Education Vol. 16, no. 1, pp. 59-64.

LEDGER, R.H. (1978). The "new" Geography in South African High School Teaching. Cape Town, M.A. Thesis.

LONG, M., & ROBERSON, B.S. (1970). Teaching Geography. London: Heimemann Educational Books, Ltd.

MAYER, R.E. (1979). "Can advance Organizers influence meaningful learning?" in Review of Educational Research. Vol. 49, No. 2, pp. 371-383.

MAYER, R.E. (1981). "Instructional variables in text processing". Paper given at International Symposium on Text processing. Fribourg. September.

MAYER, R.E., & GREENO, J.G. (1972). "Structurally different learning outcomes produced by different instructional methods" in Journal of Educational Psychology. Vol. 63, pp. 165-173.

MARTORELLA, P.H. (1972). "Evaluating Geography concept Learning: A model for classroom and Research Applications". A Paper presented at the annual meeting of the National Council for Geographic Education. Milwaukee.

McVEY, M.K. (1981). "The Role of Prior knowledge in Ninth Grade Boys' Comprehension of a concept in Science" (Sycracuse university) Dissertation Abstracts International, 42(5): 2050-A, November.

McKEACHIE, W.J. (1980). New Directions For Teaching and Learning: Learning Cognition and College Teaching. No. 2. Washington: Jossey-Bass, Inc.

MERRIL, M.D., & TENNYSON, R.D. (1977). Teaching Concepts: an Instructional design guide Englewood Cliffs: Educational Technology Publications.

MOJA, T.A. (1982). Failure in Biology. M-ED Research Report. University of the Witwatersrand.

MOULY, G.J. (1982). Psychology For Teaching. Massachusetts: Allyn & Bacon, Inc.

NORMAN, D.A. (1973). "Memory, knowledge and the answering of questions" in R. Solso (Ed), Learning, Cognition and College Teaching. San Francisco: Jossey-Bass.

NORMAN, D.A. (1980). "What goes on in the mind of the learner" in Learning Cognition and College Teaching. San Francisco: Jossey-Bass.

NOVAK, J.D. (1977). "Epicycles and the homocontric earth: or what is wrong with stages of cognitive development" in Science Education. Vol.61 no.3, pp. 393-395.

NOVAK, J.D. (1976). "Understanding the learning process and effectiveness of teaching methods in the classroom, laboratory and field" in Science Education. Vol. 60, No. 4, pp. 493-512.

OFFICAL REPORT. (1982). Report of the Commission of Inquiry into the System of Education in Operation in the Republic of Venda. Sibasa. July.

OKEKE, E.A.C., & ROBINSON C.W. (1980). "A study of Nigerian Pupils understanding of selected biological concepts" in Journal of Biological Education. Vol. 14, no. 4, pp. 329-338.

OSBORNE, R.J., & WITTROCK, M.C. (1983). "Learning Science: A generative process" in Science Education. Vol. 67, No. 4, pp. 489-508.

PARLETT, M., & HAMILTON, D. (1972). "Evaluation as Illumination: A new Approach to the study of Innovatory programs". Occasional Paper no. 9. Centre for Research in the Education Science, University of Edinburgh, Edinburgh.

PARLETT, M., & HAMILTON, D (1977). "Evaluation as Illumination: A new Approach to the study of Innovatory programs". In Hamilton, D et al. Eds Op. cit.

REIGELUTH, C.M. (1983). "Meaningfulness and Instruction: relating what is being learned to what a student knows" in Instructional Science Vol. 12, pp. 197-218.

SAX, G. (1968). Empirical Foundations of Educational Research. New Jersey: Prentice-Hall, Inc.

SIMPSON, M., & ARNOLD, B. (1982). "Availability of prerequisite concepts for learning biology at certificate level" in Journal of Biological Education. Vol. 16, no. 1, pp. 65-72.

SHAYER, M. (1974). "Conceptual demands in the Nuffield 'O' level biology course" in School Science Review. Vol. 56, no. 195, pp. 381-388.

SMITH, M.D. (1975) Learning and its classroom Applications. Massachusetts: Allyn R Bacon, Inc.

STAHL, R.J., BUTTON, C.B., & CORBETT, W.T. (1975). "A model to create Instructional Activities Intended to Develop student concept Learning and problem solving skill: A modification of Gagne's conditions of Learning for social studies Instruction". A paper presented at the annual meeting of the American Educational Research Association. Washington D.C, March.

STONES, E (1979). Psychopedagogy. New York: Methuen & Co Ltd.

STONES, E. (1981). "Teacher Education and Pedagogy" in Journal of Education for Teaching. Vol. 7, no. 3, October, pp. 217-229.

TENNYSON, R.D., SHAO, J.M., & YOUNGERS, J. (1981) "Concept learning effectiveness using prototype and skill development presentation forms" in Journal of Educational Psychology. Vol. 74, No. 6, pp. 329-334.

TILCH, M. (1983). Method of Instruction and Achievement in first year college Biology. M-ED Thesis. University of the Witwatersrand.

TILLEMA, H. (1983) "Webteaching: Sequencing of subject matter in Relation to Prior knowledge of pupils" in Instructional Science. Vol. 12, pp. 170-178.

THOMAS, P.R. (1978) "Curriculum change or classroom survival: the quest for priorities in Secondary School Geography" in Geography (63), pp. 37-41.

VAN DER MARK, (1979) Concept formation and change of Attitudes Toward the Teaching of Elementary Science of Student Teachers as a result of Lecture, Demonstration and Student Active Participation. M-ED thesis. University of the Witwatersrand.

VOSS, J.F. & BISANZ G.L. (1981) "Models and Methods used in the study of Prose Comprehension and Learning". A paper presented at the American Educational Research Association Conference. Los Angeles.

WHITE, D.R. (1983). "Teachers For Africa" in Educating The Educators. Johannesburg: University of the Witwatersrand.

APPENDIX A

EXAMPLES OF VERBATIM RESPONSES FROM TEACHERS

1. Pupils have difficulties in understanding concepts in Geography because of lack of advanced teaching aids (Mu).

2. Geography is taught as a theoretical subject instead of being a practical Subject (ME).

3. Pupils experience difficulties in Geography because they lack proper guidance form teachers (MU).

4. No fieldwork done at this school because of the difficulties which are experienced in controlling pupils outside the classroom (LU).

5. I hate Climatology and I always find myself giving pupils notes instead of teaching them (VL).

6. My Principal does not allow teaching outside the classroom (VL).

7. Pupils are not familiar with several concepts. Most of the things are too theoretical (TV).

8. Teaching for the first time is a hassle because one does not know if one is making pupils understand one's lessons (DA).

9. Some aspects in the textbook are not clearly explained and this puts the teacher in a difficult position because he cannot explain things well (MI).

10. There are no other books to refer to when preparing lessons (LU).

11. I do not know of other relevant textbook in Standard Nine (MU).

12. Physical Geography seems to give pupils problems. The terms used are difficult (TV).

13. Geography is a little difficult for me because I did not qualify for it, as such, I am also a student(TW).

APPENDIX B

EXAMPLES OF VERBATIM QUESTIONNAIRE RESPONSES FROM PUPILS

QUESTION 20

1. My teacher will cause my failure because I am not satisfied with his teaching method. He is not giving us enough help we need as pupils (TW).

2. My failure would have been caused by our teacher who does not teach but jokes all the time, telling us of things not relevant to our lesson but sets a difficult examination (MI).

3. I will fail Geography because it requires a lot of memorizing (ME).

4. My teacher will cause my failure because he seems to lack knowledge and understanding of the subject such that he is even unable to answer some of our questions (LU).

5. I would say my teacher failed me because he is not only weak in teaching, but even weak in marking since sometimes he does not even know the answers to his questions (LU).

6. I will fail because it is hard to learn something without being taken out to see (TW).

7. We are not taken out to see things with our naked eyes (VL).

8. Our teacher does not seem to prepare his work. He confuses us when teaching and this will cause my failure (MU).

9. My textbook will cause my failure because it is like a newspaper (MU).

10. Geography is compulsory at our school and our teacher does not teach it well. Because I do not understand it, I may fail it (MU).

11. I will fail Geography because I do not have the best teacher to teach me (TV).

12. We have many Geography periods a week-sometimes three a day. We get bored and start slumbering. I will fail because I do not listen as the teacher continues his lessons for three periods (TA).

13. I will fail Geography because I memorize it (MU)

14. My teacher who is not experienced in teaching Geography will cause my failure because it is difficult to understand Geography without the help of an experienced teacher (DA).

15. Our teacher will be blamed for my failure because he does not simplify the lessons for us (MU).

APPENDIX C

QUESTIONNAIRE TO GEOGRAPHY TEACHERS

This is a research programme designed to discover difficulties that are experienced when teaching concepts in Geography.

You will notice that you are not asked to give your name. Therefore, feel free to be honest. I would be grateful if you could kindly answer the questions as frankly as you can. Your responses will remain strictly confidential, and will be used for research purposes only.

THANK YOU FOR THE COURTESY OF YOUR ASSISTANCE

Please cross the appropriate boxes e.g. Yes [x] or answer the questions in the spaces provided.

1. Name of School .....

2. Teacher's sex: Male [ ], Female [ ].

3. Subjects and classes presently taught by you e.g. History, Std 9 & 10 .....

4. Size of classes: std 8 [ ], std 9 [ ], std 10 [ ],

5. What are your professional qualifications? .....
.....

6. What were your method subjects when you were training?
.....

7. What is your highest academic level? .....

8. Which graduate courses have you completed? .....
.....

9. Which under-graduate courses have you completed? .....
.....

10. Name of college or University where you trained as a teacher
.....

11. How long have you been teaching?

12. Which has been your best subject in all the years? (Please state the reasons for your choice of the subject) .....
.....
.....
.....

13. How long have you been teaching geography and in which classes (e.g. std 8, 2 years)? .....
.....
.....

14. (a) Do you find the prescribed textbook you are using helpful?

[ ] Sometimes

[ ] Often

[ ] Hardly ever

(b) Please give reasons for your answer under 14(a).....
.....
.....
.....
.....

15. When preparing a lesson, do you consult other textbooks?

Yes [ ] No [ ]

16. Do you use a geography dictionary? Yes [ ] No [ ]

17. A lesson that you give would be considered successful when

[ ] you have supplied pupils with enough body of ordered facts

|____| you help pupils to understand the more important geographical concepts

|____| pupils can define the main concepts of the lesson. (you can mark off more than one).

18. What do you consider to be most important when preparing a lesson?

|____| Linking the new knowledge to the past knowledge

|____| Defining new concepts

|____| Providing pupils with facts

|____| Other (please specify)

.....

.....

19. How many Geography periods do you have a week? .....

.....

20. Are these periods enough for the teaching of Geography?

Yes |____| No |____| .

Please explain your answer .....

.....

.....

.....

.....

21. Are you satisfied with the length of syllabus?

Yes |____| No |____|

22. If no, explain why .....
.....
.....
.....
.....

23. Which textbook(s) do you use for the classes you are teaching? .....
.....

24. Do you take fieldwork with your pupils?

Yes [ ] No [ ] .

25. How often do you take fieldwork with your pupils? .....
.....

26. What significant results have you observed after the excursion? .....
.....
.....

27. If your answer to question twenty-four is No, what are your reasons for not undertaking fieldwork? .....
.....
.....
.....

28. Do you use teaching aids in your lessons?

Yes [ ] No [ ]

29. If yes, do you use

[ ] prepared teaching aids

[ ] ready-made teaching aids

[ ] Both.

30. If no, state the reason(s) why .....
.....
.....
.....

31. When you set a test, you ask

[ ] multiple-choice questions

[ ] mixed questions

[ ] Essay questions

32. In the test, emphasis is laid on

[ ] Reasoning out answers

[ ] Recall of learned facts

[ ] Application of facts

33. What do you consider to be the basic problem/difficulty to pupils in the understanding of concepts in geography?
.....
.....
.....
.....
.....

34. What method do you frequently use in teaching concepts?.....
.....
.....
.....

35. Why do you prefer this method? .....
.....
.....
.....

THANK YOU FOR YOUR CO-OPERATION

APPENDIX D

QUESTIONNAIRE FOR GEOGRAPHY PUPILS

The purpose of this questionnaire is to discover the problems/ difficulties you are experiencing in geopgraphy. Since this study could produce some extremely important and useful information, you are asked most earnestly to answer the questions accurately and honestly and as fully as possible. You will notice that you are not asked to give your name, therefore, feel free to be honest.

THANK YOU FOR YOUR INTEREST AND CO-OPERATION

Please cross the appropriate boxes e.g. Yes [x], or answer the questions in the spaces provided.

1. Name of school .....

2. You are Male [ ], Female [ ]

3. Standard [ ]

4. Did you do geography in Std 8? Yes [ ] No [ ]

5. If yes, which section(s) were difficult for you (you can mark off more than one)

[ ] climatology

[ ] Geomorphology

[ ] Mapwork

[ ] Human Geography

6. What were your main problems in the sections that were difficult? .....
.....
.....
.....

7. Do you do fieldwork in geography?

[ ] Never

[ ] Occasionally

[ ] Fairly often

[ ] Often

8. In which section(s) of geography have you done in fieldwork?

[ ] Climatology

[ ] Human geography

[ ] Geomorphology

[ ] Mapwork

9. Do you have difficulties/problems in understanding the std 9 geography? Yes [ ] No [ ]

10. If yes, what are these difficulties/problems? (you can mark off more than one)

[ ] The textbook used is difficult to understand

[ ] I cannot relate what I have learned in the previous lesson to the new lesson.

[ ] I am expected to memorize definitions of terms and reproduce them in a test.

[ ] I cannot understand my teacher

[ ] I do not follow my teacher's explanations.

[ ] Other

Please say what these 'other' problems are

.....

.....

.....

11. Do you feel that enough help is given by your teacher, to help with your problem? Yes [ ] No [ ]

12. If yes, mark those items your teacher does to help you.

[ ] my teacher recommends that we use other books

[ ] Before starting with a new lesson, my teacher revises the previous lesson with us.

[ ] He takes short educational trips with us to explain what we do not understand

[ ] my teacher defines terms in simple words and gives us a lot of examples.

[ ] After every test, he goes through the work again to explain what we did not understand.

[ ] We are made to underline the important things in our textbooks

[ ] Other

Please explain what 'other' things your teacher does to help you out of your problem .....
.....
.....
.....

13. If your answer to question II is no, give the reason(s) to your answer .....
.....
.....

14. How difficult do you find geography as compared to other subjects at school?

[ ] It is extremely difficult for me

[ ] It is the easiest of all my subjects

[ ] I find it easy for me and gives few problems

15. My teacher uses teaching aids to help me understand the lesson

Strongly agree [ ] agree [ ] disagree [ ] strongly disagree [ ]

16. I would not like to choose geography even if I had the chance again.

Strongly agree [ ] agree [ ] strongly disagree [ ] disagree [ ]

17. I enjoy the lesson best when my teacher gives us notes on a chapter without explaining it.

Strongly agree [ ] agree [ ] strongly disagree [ ] disagree [ ]

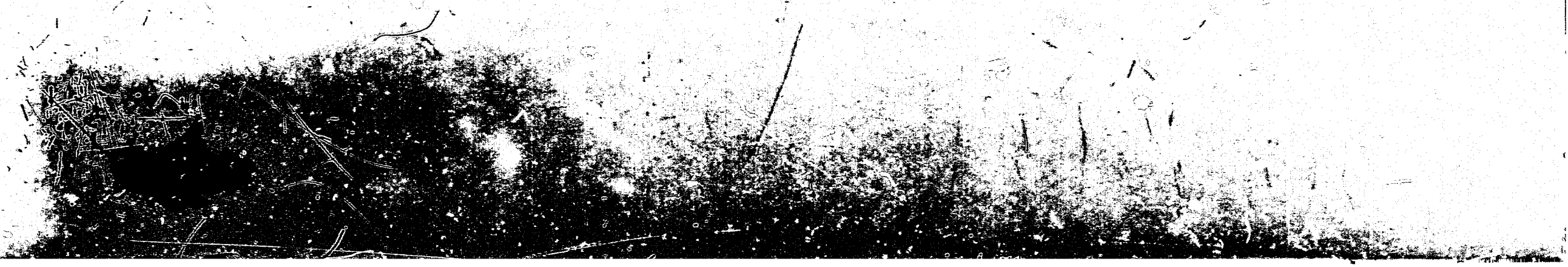
18. My teacher uses only maps and a globe as teaching aids in geography.

Strongly agree ____ agree ____ strongly disagree ____ disagree ____

19. I understand the lesson best if my teacher involves us in a discussion.

Strongly agree ____ agree ____ strongly disagree ____ disagree ____

20. If you happen to fail geography at the end of the year, what would you say caused your failure? .....
.....
.....
.....
.....



Author Rasegane L T
Name of thesis Concept acquisition in Geography of Secondary school pupils 1985

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