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# Cognitive processes in history: learners' explanation of the causes of colonialism in Africa

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*Despite enormous growth in the study of learners' cognitive processes, relatively little is known about how learners reason about social phenomena and issues involved in disciplines, such as history. Yet, according to scholars the process could hardly be more important, and it demands redress and scientific explanation. To contribute to the understanding of learners' reasoning about historical issues, an empirical research project, on the cognitive processes of learners' while explaining the causes of an historical event, was undertaken. The data obtained showed that difference in age and expertise tended to lead to different types of historical explanation. A model to induce learners' understanding of an historical event is put forward.*

**Keywords:** *Africa; cognitive; colonialism; history; learners*

## Introduction and statement of the problem

Included in most school history policy documents published in South Africa since 1994 is the notion that in the history classroom learners' ability to think and understand should not be considered as something separate from the history curriculum, but as a tool for promoting better historical understanding (Department of Education, 2000:1-8; Department of Education, 2002a: 1-13; Department of Education, 2002b:1-10; Department of Education, 2003: 2-16). This is in line with the increasing trend amongst scholars to establish a relationship between school subject content and learners' ability to think and understand (Carretero, Jacott, Limón, Lopez-Manjón & León, 1994:357-359).

The problem that underlay this study centred around two issues, namely, the cognitive processes involved in learners' explanation of the causes of an historical event, and how history teachers go about preparing learners, to understand and explain historical events, and supporting the processes involved. According to scholars such as Mulholland and Ludlow (1992:28-29) and Shemilt (1980:30) learners find the explanation of the causes of historical events very difficult. Haydn, Arthur and Hunt (1997:17), Scott (1990:9) and Shemilt (1980:30) summarise some of the chief challenges faced by learners when discussing and assessing the causes of an historical event: mistaking events and facts for causes; not able to identify connections between cause and effect; only appreciating monocausal rather than multicausal factors; not able to appreciate the different significances of cause and consequence; not aware of categories (e.g. social, political, economic); not able to distinguish between long-term, medium-term and short-term cause and consequence; have a ten-

dency to accept inevitably and to dismiss contingency; and fail to understand the complexity of motivation in history. According to Inhelder and Piaget (1958:64-65) and Steele (1985:14) the development of learners' capacity to think about the causes of historical events is only partly the product of physical maturation; it is also greatly affected by their learning experiences, both inside and outside the school situation.

Mulholland and Ludlow (1992:28) and Voss (1993:1), respectively, state the following regarding learners' learning experiences of the causes of historical events in the history classroom: "... for many years, causes and effects of historical events were offered to learners in South African public schools as recipes and not as something to think about", and "... too often schools have dealt with causation in history uncritically". Shemilt's (1980:79) research on the teaching of the causes of historical events confirms the above statements: "... although learners could grasp the idea that a historical cause was something with the 'power to make something else happen', they often could not identify, articulate or understand the direct connection — the causal link — between cause and effect". The reason for this, according to the Report of the History/Archaeology Panel (Department of Education, 2000:1-8) and Shemilt (1980:33), is educators' and textbooks' portrayal of the causes of events as cut and dried and indisputable. Educators dictate or ask learners to copy the "recognised" causes of certain events. Textbooks also do not explain the connections between cause and effect (Voss, 1993:2).

Voss and Carretero (1994:12) conducted empirical investigations into the nature of formal reasoning in history issues and pointed out that this research shows that learners can generate effective arguments outside school. They can skilfully persuade parents to grant privileges or convince friends to concede a point of view. "But ask those same kids to construct argument in history, and they can't do it." Voss and Carretero (1994:13) believe history teachers should build on learners' demonstrated ability to argue by explicitly teaching argumentation and analysis.

One would expect the cognitive processes related to history to be one of the principal areas of research among history scholars in South Africa, but this has not been the case, as Kapp (1998:115-116) confirms: "... history scholars and practitioners in South Africa can unfortunately not draw on a substantial body of empirical research findings ...". Researchers worldwide also seem to have forgotten the topic of cognitive processes in history for only a small number of contributions have been devoted to this topic (Voss & Carretero, 1994:1; 5). According to Carretero *et al.* (1994:210) the above anomaly demands redress and scientific explanation.

Against the backdrop of the preceding discussion, the following research questions could be formulated:

- What kind of cognitive processes are involved when learners have to explain the causes of an historical event?
- What could be done in South African public schools to enhance the historical thinking and understanding of learners?

**Purpose of the study**

With the above research questions in mind, the purpose was to provide history teachers and teacher educators with an outline of scholars' views of what constitutes historical thinking and understanding; to report the outcomes of an empirical study of the cognitive processes involved when learners have to explain the causes of an historical event; and to describe a model that has been shown by research and in practice to be effective in supporting learners' historical thinking and understanding. History teachers and teacher educators can then also use this to enhance the historical thinking and understanding of learners in South African public schools.

In order to achieve the purpose, the concept 'historical explanation' was clarified; a review of the international literature pertaining to learners' cognitive processes in history was done; an empirical study particular for the South African situation was undertaken; and conclusions and recommendations were put forward.

**Clarification of the concept 'historical explanation'**

According to Stanford (1996:1) the duty of historians does not stop at accounts of events; they also have to explain the events. One of the fundamental problems in the philosophy of science has been to determine what is the nature of scientific explanations: Are the scientific explanations the same for all the sciences, or do they differ, depending on which science is being considered? The above question has been discussed at length by philosophers throughout the history of sciences. Two sides of this debate have come to be represented by important philosophical schools of thought. On the one hand, the positivist school of thought takes the view that the explanatory scheme (the scientific or the nomological-deductive) used in the natural sciences is considered as the ideal explanatory model for all sciences (Benton & Craib, 2001:13-27; Stanford, 1996:1-6). On the other hand, there is another school of thought that draws a distinct line between the approach to explanation in the natural sciences and that in the social sciences (Burger, 1977:168-173).

In the social sciences, there has been a long and unsettled argument: how far should the social sciences adhere to the methods of the natural sciences? (Benton & Craib, 2001:8-9). One of the theoretical models to answer the above question, in the social sciences and history, is the teleological or intentional model of explanation proposed by Von Wright (1971:371-413). It is based on the assumption that the methods of the natural sciences cannot be transferred to the social sciences, given the different nature of the two types of science. As has often been pointed out by scholars, such as Collingwood (1946:20) and Dray (1957:43), to understand human behaviour the social sciences do not have to rely solely upon external observation (as the natural sciences do) but the social sciences have an insight into the subject matter (human behaviour). The social sciences know what it is to be human. This insight is particularly valuable when it comes to explaining human actions: the social sciences can often perfectly understand the intentions of the agents.

This leads to the establishment of fundamental differences between causal explanation advance in natural sciences and intentional explanation focusing fundamentally on human (rational purposive) action — proposed as being suitable for the study of history. History, from this perspective, is defined as the study of human actions, i.e. it is concerned with the reconstruction of the lives of people in other times and places (Collingwood, 1946:19). To explain an action teleologically or intentionally implies the understanding of a particular intention in the actor who performs it; that intention constitutes its most characteristic feature. For this reason historical explanations are of a different type to those in the natural sciences (Dray, 1957:42). Therefore, the distinction between nomothetic sciences, referring to those sciences whose objective is the production of general and invariable laws, and idiographic sciences, which concentrate on the study of particular entities or the individual (Windelband as quoted in Dray, 1957:43).

Historical explanation is not altogether distinctive, it has problems of its own. Consideration of the importance of insight into human behaviour has led historians and social scientists to develop action theory, i.e. to make an analysis of what is involved in human actions. Five elements are usually distinguished: aim, assessment of situation, choice of means, drive (or motive), and context (Stanford, 1996:2-6). According to Goertz (2007:1-4) and Stanford (1996:2) many occurrences, past and present, can be explained like this. However, events often do not turn out as intended. Therefore an explanation in terms of intention may be quite inadequate. The historian has to look elsewhere. Sometimes he/she can find satisfactory explanations in the natural sciences. Alone they do not provide a satisfactory or comprehensive explanation. It seems that historians then have to look for causes in order to give a satisfactory explanation. Von Wright (1971:371-413) states that the explanation of historical facts involves taking into account the occurrence of one or more prior events that can be considered as "contributory causes". The notion of cause is almost inextricable from the study of history though there have been scholars, such as Oakeshott (1933:43), who deny its relevance. Nevertheless, according to Stanford (1996:3) and Newton (2001:182) historians are normally much concerned with causes. Among these are causes of the scientific kind, causes of the intentional kind, and the chains of events which bring about results neither intended by the agents nor explicable by any general law, either of the natural sciences or the social sciences. In such cases the historian is left to speculate about the one or the many combined causes that could have brought about such a result.

By an historical cause (or set of causes) the historian understands that event without which the effect would not have occurred. Unfortunately, since there are no laws of history comparable, say, to the laws of chemistry, the historian cannot predict what would have happened without the alleged cause. He/she may suppose that without a particular cause the result would not have come about. But this is counter-factual speculation. Fortunately, the historian is not entirely without guidance as to at least the more likely causes.

For Collingwood (1961:285) the question of the cause of an occurrence is equivalent to the question, How can we bring about, or prevent, such an occurrence? The answer is often found in an abnormal condition. This method is far from infallible, but it is helpful.

In explaining historical events, historians are also influenced by values and political attitudes. Consequently there are presently, according to Carretero *et al.* (1994:363-365) and Goertz (2007:1-4), a number of historiographical approaches that are based on very distinct theories: the positivist approach focusing on empirical data and the role of great historical figures; the structural approach defending an historical view based on the interaction of economic and social structures in which particular persons do not play a crucial role; the marxist approach holding a similar position as the structural approach but not identical because of its emphasis on the existence of materialistic dialectical laws based on Hegel's philosophy of history; and the mentalities approach focusing on research activity of an ideological nature and private-life events of the past. Therefore, when studying the causes of an historical event, any of these approaches will select its data according to its more general theory.

## Method of research

### Literature review

During the 1960s and early 1970s, it was the philosophic-historical views of Burston and Green (1964:80), Burston and Thompson (1967:93), Collingwood (1961:27-28), and Walsh (1971:65-84) that dominated professional debate about what constituted historical thinking and understanding. The focus of this debate changed, however, from the mid-1960s onwards as the growing importance of educational psychology shifted discussion from a narrow epistemological discourse to a broader cognitive approach.

The psychological studies of Inhelder and Piaget (1958:64-65) were adopted by Peel (1967:159-190) and Hallam (1970:165-178) to develop a model of learners' historical thinking and understanding. These researchers asserted that the three Piagetian stages (pre-operational; concrete operational; formal operational) seemed to correspond to stages in the development of historical thinking and understanding in learners. At the pre-operational stage (0 to 7 years) young learners often failed to make sense of historical information. At the concrete operational stage (7 to 11 years) learners could describe historical events. At the formal operational stage (11 years to adult) learners could make effective inferences from limited information and hypothesise as to motivation and the causes of historical events. Peel (1967:159-190) termed the latter two stages the descriptive (concrete operational) and explanatory (formal operational) stages, respectively. These researchers soon faced criticism for trying too hard to slot the development of learners' historical thinking and understanding into the schematic three-stage model of chronological development (Booth, 1987:18-20; Cooper, 1994:102-121).

Dickinson and Lee (1978:92-120) therefore looked at defining historical

thinking and understanding without examining stages of psychological development. They suggested that an important aspect of historical thinking and understanding is the capacity to distinguish between, on the one hand, contemporary values and perspectives (presentism) when examining an historical problem, and on the other hand, contemporaneous values and perspectives (real history). Dickinson and Lee's (1978:92-120) views on the need for the development of a capacity for understanding the perspectives of the past have been vitiated by the so-called Youth and History Project, which was quite pessimistic about the capacity of adolescents to produce these complex levels of understanding and explanation (Korber, 1998:123-138). However, McAleavy (1998:139-142) has suggested that in-depth historical study may be a way of overcoming this kind of difficulty, and, according to Howells (1998:16-19), some quite advanced historical concepts such as inevitability may be understood by age 7, 8, and 9 learners if a lesson receives enough study time (Australian Government, 2006:4-5).

Booth (1979:12-14) identified a further unique element of historical thinking and understanding: history requires adductive skills, in contrast to established ideas of inductive or deductive scientific thinking. School history's difference is that it is speculative, imaginative, vicarious, and persuasive, and its idiographic underpinning adds a further dimension to its uniqueness. Booth's (1979:14-15) use of the term adductive also referred to learners adducing answers to quite specific questions. Booth (1979:15-16) asserted that, unlike a scientist, an historian asks open-ended questions and uses selected facts to produce an explanatory pattern.

Lee (1998:29-32) has examined the ideas of learners (7- to 14-year-olds) about differing historical accounts to see if there are stages of progression in historical comprehension which might be mapped. His findings show that young learners (7-year-olds) see all historical sources as essentially the same and are unable to differentiate between them. These younger learners also pointed out that direct access to "the past" was impossible in the words of one child, "*Because no-one from them days is alive today*". According to Lee (1998: 29-32), older learners were more likely to emphasise the role of the author(s) in these historical sources, and a small group of the older learners saw that accounts might not have been complete. According to Lee (1998:29-32), one may conclude that younger learners need to learn, in a basic way, how to differentiate between kinds of stories (myths, legends, differing historical accounts), and that older learners need to be aware that valid historical explanation may be attempted even when there are evidential gaps. Shemilt (1980:18-25) showed that learners who were taught using an historical methodology approach (i.e. evidence-based and concept-led) were either more likely to use high level historical thinking and understanding than the equivalent control group, or they were more likely to regard historical explanation as a series of propositions (Australian Government, 2006:5-6).

With the information obtained from the above international literature, an

empirical study, particular to the South African situation and which produced descriptive statistical data, was undertaken.

## Empirical study

### *Questionnaire*

To obtain data about the cognitive processes involved when learners explain the causes of an historical event (Colonialism in Africa) a questionnaire was developed. Peel's (1967:159-190) and Hallam's (1970:165-178) model of learners' historical conceptual development, and Carretero *et al.*'s (1994:210) findings of a 1994 research project about causal explanation in history, using different tasks, were used in planning the questionnaire. According to the above scholars, age and expertise tend to have an influence on the way a learner explains the causes of an historical event.

The questionnaire comprised three sections. The purpose of Section 1 was to establish the ages of the respondents in order to determine if age plays a role when respondents have to explain the causes of an historical event. The following age groups were presented to the respondents: 14 to 15 years old, 16 to 17 years old, 18 to 19 years old, and 22 years and older. The respondents were requested to tick off their specific age in the applicable block. The above age groups were chosen for the sample because of the views of Peel (1967:159-190) and Hallam (1970:165-178). They pointed out that history is an abstract subject that cannot be understood at a stage well below the formal operational stage, 16.2 to 16.6 years. Only at the formal operational stage or so-called explanatory stage would learners be able to make effective inferences from limited information and hypothesise as to motivation and causation. However, it should be borne in mind that, according to researchers such as McAleavy (1998:139-142) and Howells (1998:16-19), some quite advanced historical thinking and understanding was observed by younger learners where historical events were studied in depth and enough time was allocated to the study of the events (Australian Government, 2006:4-5).

The purpose of Section 2 of the questionnaire was to determine if expertise plays a role when respondents explain the causes of an historical event. The following ordinal question was presented to the respondents "What caused colonialism in Africa?" In an effort to obtain a precise answer to the question, respondents were presented with six factors. Each factor could be considered as a possible cause of the historical event. Respondents had to rank the six factors according to the significance of each in the causation of the historical event, ranking the most important factor first and the least important factor last (sixth). Table 1 contains the factors presented to the respondents. The information provided with regard to the six factors was based on the main factors presented in textbooks (Dugmore, Mulholland, Nussey, Siebörger & Torr, 1999:88-104; O'Callaghan, 1997:215-217; Seleti, Dyer, Naidoo, Nisbet, Roberts, Saunders & Clacherty, 2000:243-272) as explanation of the historical event. The decision to include only these six factors in the questionnaire was made after a study of the following theories of colonialism:

economic imperialism, European nationalism, the revisionist explanation, and the strategic explanation (Seleti *et al.* 2000:246-248). "Colonialism in Africa" was chosen as the knowledge focus area for the research project because of its presence as a topic in social sciences and history curricula of primary and secondary public schools, pre-1998 as well as post-1998. All respondents would therefore have some tacit knowledge of the topic.

**Table 1** Different types of causes

| |
|---|
| Intentional: David Livingstone, Henry Morton Stanley, Leopold II of Belgium. Motives: ambition, curiosity, desire of adventure and wealth. |
| Ideological: Legends, myths and tales about the existence of remote lands (Monomotapa). |
| Economic: European countries were driven to acquire colonies by their desire for higher profit, search for gold, cheap labour, and new markets to invest their surplus capital. |
| Scientific-technological: Scientific-technological changes in European medicine, metal-works, the military and civil service all gave Europeans advantages over indigenous Africans. |
| Political: Great competition existed between European nations causing tension and encouraging nationalistic feelings. These European rivalries were expressed in the partition of Africa as the European nations competed with each other by claiming colonies. |
| Strategic: European powers colonised Africa to protect their own military and trade interest. Britain occupied South Africa to secure her sea lanes to India. |

The purpose of Section 3 of the questionnaire was to determine if respondents' spontaneous explanation, of how Africa was colonised, confirmed their ranking of the six causes of the historical event in Section 2. An open question was presented to the respondents in which they were requested to narrate their understanding of how Africa was colonised. The initial draft of the questionnaire was discussed with an expert to determine the validity of the three sections. It resulted in a change of wording in an attempt to ensure that the respondents understood the gist of the three sections.

*Respondents*

Fifty respondents (five groups of 10) participated in the research project. Three of the five groups comprised adolescents of the following age groups: 14 to 15 years, 16 to 17 years, and 18 to 19 years. The adolescent respondents came from a public school in the Johannesburg West: D12 area. All the adolescent respondents had been exposed to history instruction during their pri-

mary and/or secondary school careers. The two remaining groups comprised adults older than 22 years of age enrolled for the Postgraduate Certificate in Education (Senior Phase and FET) at a South African university: one group consisted of Learning Area Didactics Life Orientation students, with languages, psychology, biblical studies, or religious studies as majors for their bachelor's degree; and the other group was made up of Subject Didactics History students, with history as major for their bachelor's degree. All the Learning Area Didactics Life Orientation students had been exposed to history instruction during their primary school careers. The expertise (length and experience of history study) of the sample varied from informal or tacit knowledge to formal or extensive knowledge of the historical event. The adult respondents were from all over the province of Gauteng.

*Data collection*

Two months prior to the administration of the questionnaires, permission was obtained from all participants. The questionnaires were administered during five sessions. It was done by the Johannesburg West: D12 office and the researcher. A representative of the Johannesburg West: D12 office applied the questionnaires to the three adolescent groups within a classroom situation at the public school in the presence of the classroom teachers. The adolescent respondents did not complete the questionnaires all at once. The possibility therefore existed that those respondents who had completed the questionnaires during the first sessions would have discussed the content of the questionnaires with their peers, and this might have influenced the outcomes of the survey. The questionnaires to the two adult groups were applied by the researcher herself in a classroom situation during the two annual day seminars held for each of these two groups.

The procedure for both groups was identical. Prior to the completion of the questionnaires, the instructions were read out loud to the respondents. Difficult words were explained, as any misunderstanding could have influenced the results of some of the respondents. The respondents were encouraged to ask questions prior to and during the completion of the questionnaires, and were ensured that they could take all the time they needed to complete the questionnaires. Participants' anonymity was assured and voluntary participation in the research project was ascertained. Respondents were asked to write their responses as comprehensively as possible on the questionnaire paper itself. A 100% response rate was obtained because the researcher stayed in close contact with the Johannesburg West D16 representative prior to, during and after the completion of the questionnaires, by telephone, correspondence, and courier. The questionnaires of the two adult groups were completed in the presence of the researcher and thus collected by the researcher herself. The collected data were then prepared for analysis. The tabulated data were subjected to statistical analysis using mean ranking scores. Respondents' ranking of the causal factors was assessed on a scale of 1 to 6. A high ranking of a

factor was represented by a 1 and a low ranking by a 6. A mean score of 3.50 or higher was interpreted as a low ranking of a factor, and a mean score of less than 3.50 as a high ranking of a factor.

**Results**

Table 2 shows the rankings of the total sample (n = 50) of importance of the factors.

The results of the completed questionnaires are presented in three parts.

Part I: Ranking of the causal factors between the groups

A close reading of the tabulated data revealed differences as well as similarities between the groups. Significant differences were observed regarding the intentional, political and strategic factors. Mean scores for the intentional factor: 14 to 15 years (M = 1.60); 16 to 17 years (M = 2.15); 18 to 19 years (M= 2.50); non-history graduates (M = 2.60); history graduates (M = 4.10). Mean scores for the political factor: 14 to 15 years (M = 4.45); 16 to 17 years (M = 3.55); 18 to 19 years (M = 3.65); non-history graduates (M = 3.50); and history graduates (M = 3.00). Mean scores for the strategic factor: 14 to 15 years (M= 4.90); 16 to 17 years (M = 4.85); 18 to 19 years (M = 4.15); non-history graduates (M = 3.65); history graduates (M = 3.45).Analysis of the above mean scores revealed that history graduates differed significantly from the 14 to 15 years group with respect to the intentional factor. The data indicated that the 14 to15 years group ranked the intentional factor (M = 1.60) as the most important factor, whereas history graduates ranked it (M = 4.10) as the second lowest factor. The intentional factor featured strongly in historical explanations of adolescents, but not for those respondents who were experts in the history domain. In the case of the political factor, history graduates differed significantly from the 14 to 15 years group, but their answers were the opposite of answers concerning the intentional factor. The history graduates ranked the political factor as the second most important factor (M = 3.00), whereas the 14 to 15 years group ranked it as the second least important factor (M = 4.45). The data suggested that history graduates considered the relevance of more abstract and complex factors when they explained this historical event. On the contrary, the 14 to 15 years group awarded much less importance to the political factor in their explanation. The data revealed that the 16 to 17 years and 18 to 19 years groups and the non-history graduates assigned a similar degree of importance to the intentional (M = 2.15, M = 2.50 and M = 2.60, respectively) and political (M = 3.55, M = 3.65 and M = 3.50, respectively) factors. The results obtained regarding the strategic factor indicated that history graduates (M = 3.45) and non-history graduates (M = 3.65) differed significantly from the 14 to 15 years (M = 4.90), 16 to 17 years (M = 4.85), and 18 to 19 years (M = 4.15) with the adult graduates assigning a higher level of importance to the strategic factor than the adolescents.

The similarities among the groups related to the remaining factors — the economic, scientific-technological and ideological factors. The mean scores for

**Table 2** Group mean rankings (M) and standard deviations (SD) of the importance of each factor in the explanation of colonialism in Africa

| | Groups | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Causal factors | 14 to 15 years | | | 16 to 17 years | | | 18 to 19 years | | | Non-history graduates | | | History graduates | | |
| | M | SD | n | M | SD | n | M | SD | n | M | SD | n | M | SD | n |
| Intentional | 1.60 | 0.78 | 10 | 2015 | 0.89 | 10 | 2.50 | 0.56 | 10 | 2.60 | 0.58 | 10 | 4.10 | 1.04 | 10 |
| Political | 4.45 | 1.16 | 10 | 3.55 | 1.52 | 10 | 3.65 | 1.16 | 10 | 3.50 | 1.50 | 10 | 3.00 | 1.03 | 10 |
| Economic | 3.00 | 1.62 | 10 | 2.40 | 1.11 | 10 | 1.70 | 0.72 | 10 | 2.20 | 0.89 | 10 | 2.05 | 0.88 | 10 |
| Scientific-technological | 2.60 | 1.58 | 10 | 3.05 | 1.65 | 10 | 3.50 | 1.52 | 10 | 3.65 | 1.37 | 10 | 3.10 | 1.35 | 10 |
| Ideological | 4.15 | 1.15 | 10 | 4.70 | 1.06 | 10 | 5.20 | 1.08 | 10 | 5.10 | 1.13 | 10 | 5.05 | 1.06 | 10 |
| Strategic | 4.90 | 1.05 | 10 | 4.85 | 1.08 | 10 | 4.15 | 1.07 | 10 | 3.65 | 1.36 | 10 | 3.45 | 1.49 | 10 |

the scientific-technological factor were: 14 to 15 years (M = 2.60); 16 to 17 years (M = 3.05); 18 to 19 years (M = 3.50); non-history graduates (M = 3.65); history graduates (M = 3.10). The mean scores for the economic factor were: 14 to 15 years (M = 3.00); 16 to 17 years (M = 2.40); 18 to 19 years (M = 1.70); non-history graduates (M = 2.20); history graduates (M = 2.05). All the groups attributed a rather intermediate level of importance to the scientific-technological and economic factors. The exception here is the 18 to 19 years group and the history graduates, whose mean scores for the economic factor were (M = 1.70) and (M = 2.05), respectively. In the case of the ideological factor all the groups considered it to have a very low level of importance: 14 to 15 years (M = 4.15); 16 to 17 years (M = 4.70); 18 to 19 years (M = 5.20); non-history graduates (M = 5.10); history graduates (M = 5.05).

### Part 2: Ranking of the causal factors within groups

A close reading of the tabulated data revealed significant differences within the groups. The data showed that the adolescent groups' ranking of the causal factors in their explanation of the historical event differed significantly from the adult groups. The adolescents ranked the six given causal factors as follows: The 14 to 15 years group ranked the intentional factor (M = 1.60) significantly different with respect to the ideological (M = 4.15), political (M = 4.45), and strategic (M = 4.90) factors. The results indicated that the intentional factor was the most important factor whereas the ideological, political and strategic factors were the lowest factors in their explanation of the historical event. An intermediate level of importance was assigned to the economic (M= 3.00) and scientific-technological (M = 2.60) factors. The 16 to 17 years group ranked the intentional (M = 2.15) and economic factors (M = 2.40) significantly different with respect to the ideological (M = 4.70) and strategic (M = 4.85) factors. The results indicated that the intentional and economic factors were the most important factors whereas the ideological and strategic factors were the lowest factors in their explanation of the historical event. An intermediate level of importance was assigned to the political (M = 3.55) and scientific-ideological (M = 3.05) factors. The 18 to 19 year-olds ranked the economic (M = 1.70) and intentional (M = 2.50) factors differently with respect to the ideological (M = 5.20) and strategic (M = 4.15) factors. The results indicated that the economic and intentional factors were the most important factors whereas the ideological and strategic factors were the lowest factors in their explanation of the historical event. An intermediate level of importance was assigned to the political (M = 3.65) and scientific-technological (M= 3.50) factors.

The adults ranked the six given causal factors as follows: The non-history graduates considered a combination of intentional and structural factors in their explanation of the historical event. The non-history graduates ranked the economic (M = 2.20) and intentional (M = 2.60) factors as more important in their explanation of the historical event than structural factors such as the political (M = 3.50), scientific-technological (M = 3.65) and strategic (M = 3.65)

factors. The non-history graduates considered the ideological (M = 5.10) factor as the least important factor. The history graduates considered structural factors to be more important in their historical explanation than the intentional factor. History graduates ranked the economic (M = 2.05), political (M= 3.00), scientific-technological (M = 3.10) and strategic (M = 3.45) factors as more important in their explanation of the historical event than the intentional (M = 4.10) and ideological (M = 5.05) factors.

### Part 3: Narration

The data in Part 3 were obtained by analysing Section 3 of the questionnaire, which was the respondents' spontaneous narration of how Africa was colonised. The type of agents mentioned by the respondents as agents of the historical event and their motives for being involved in the historical event were used as categories for analysis purposes (Atkinson, 1978:18-20; Lomas, 1990:10-12). The results obtained from the respondents' spontaneous narration of how Africa was colonised are presented in Table 3.

**Table 3** Respondents' spontaneous explanation of how Africa was colonised

| Age/Expertise | Agents | Motives |
|---|---|---|
| Adolescents: | | |
| 14 to 15 and 16 to 17 years | Personal: British queen, British men and soldiers, merchants, king, etc. | Personal: desire to explore and obtain new territories, colonization, ambition, need of exploration, etc. |
| 18 to 19 years | Personal: Mussolini, Italians, Germans, army, Europeans, kings, etc. | Economic: minerals, economy, trade, profits, railway, money, etc. |
| Adults: | | |
| Non-history graduates | Personal: war, soldiers, armies, armaments, etc. | Economic: diamonds, rich, gold, labour, desire of territorial control, etc. |
| History graduates | Social: civilize, education, religion, etc. Political: imperialism, monarch, Britain, crown, etc. | Abstract: political, economic, strategic, scientific-technological, etc. |

In the respondents' spontaneous explanation of how Africa was colonised, they considered agents and motives which matched their ranking of the six factors. The consideration by the 14 to 15 years and 16 to 17 years adolescents' of personal agents (British queen, British men and soldiers, merchants, king, etc.) and personal motives (desires, ambition, colonization, need of

exploration, etc.) confirmed the importance given to the intentional factor (M= 1.60) and (M = 2.15), respectively, in their ranking of the factors. The 18 to 19 years adolescents' consideration of personal agents (Mussolini, Italians, Germans, army, Europeans, kings, etc.) and economic motives (minerals, economy, trade, profits, railway, money, etc.) agreed with the importance given to the intentional (M = 2.50) and economic (M = 1.70) factors in their ranking of the factors. The consideration of adult non-history graduates of personal agents (war, soldiers, armies, armaments, etc.) and economic motives (diamonds, rich, gold, labour, desire of territorial control, etc.) agreed with the importance given to the intentional (M = 2.60) and economic (M = 2.20) factors in their ranking of the factors. The consideration of adult history graduates of social and political agents (civilize, education, religion, imperialism, monarch, Britain, crown, etc.) and abstract motives (political, economic, strategic, scientific-technological, etc.) agreed with the importance awarded to the economic (M=2.05), political (M=3.00) and scientific-technological (M = 3.10) factors in their ranking of the factors. The results obtained in Section 2, the ranking of the six factors and Section 3, the spontaneous explanation of how Africa was colonised, were congruent.

## Discussion

The results are reviewed in terms of the research findings of international scholars such as Bereiter and Scardamalia (1993), Carretero *et al.* (1994) and Halldén (1986), who conducted similar studies during the past two decades. In a project conducted by Halldén (1986:53-66) in the 1980s, he observed that a personalised understanding of history is common among many adolescents. According to Halldén (1986:123-124) adolescents tend to consider the influence of specific persons in historical events to be much more important than abstract and non-personalised factors, such as political and social structures. He did however argue that the main reason for this could be that considering abstract issues would imply a much more in-depth knowledge of social and historical processes, which most adolescents are unable to obtain before they are 17 or 18 years old.

Bereiter and Scardamalia (1993:46-72) conducted a research project in the 1990s regarding the different types of knowledge applicable when learners have to explain an historical event. According to Bereiter and Scardamalia (1993:46-72), in the case of younger learners tacit knowledge usually plays a greater role than historical skill, as these learners commonly use their informal knowledge to explain the causes of an historical event. On the other hand, adult history graduates will use their formal knowledge or extensive knowledge base of history to explain the causes of an historical event; whilst adult non-history graduates use their tacit as well as metacognitive knowledge to explain the causes of an historical event.

Carretero *et al.* (1994:46-72) published research findings in the 1990s which involved an outline of different approaches (the structural approach and the narrative approach) in history teaching during the last century and

respondents' explanation of historical events. According to Carretero *et al.* (1994:46-72) the legacy of the above teaching approaches may be useful to explain how the respondents in their study thought about historical contents using personal agents only. In the first case (the structural approach), personal agents had almost no influence, and the most influential variables were political, economic and social factors. In this case these variables can be considered as similar to the physical variables in the sense of producing some type of historical regularities. In the second case (the narrative approach), history was seen as a narrative enterprise that is based on a different type of logic. The narrative approach played an important role in how history was taught in public schools worldwide. Very often, the way history was taught, consisted of offering the "story of the past". This could partly explain the results of their study. Did the adolescents and the adult non-experts in history involved in their study generate an intentional explanation partly because of the widespread conception of history as a "story of the past"? If history teaching was oriented in a different way would these respondents have generated different explanations? According to Carretero *et al.* (1994:46-72) these are interesting questions open to future research.

The research results of the South African study were similar to those of the international scholars. The South African study revealed that different groups of learners produced different historical explanations depending on their age and knowledge and experience of history. The adolescent learners considered the influence of specific persons in the historical event to be much more important than structural factors (see Halldén, 1986). A personalised understanding of history was therefore also common among the adolescents involved in the South African study. One of the main reasons for the intentional explanation of the South African adolescents may also be the cognitive development stage of the learners: considering structural factors would imply a much more in-depth knowledge of social and historical processes which most adolescent learners in the concrete operational or descriptive stage of cognitive development are unable to achieve. The younger adolescent learners who had attained the concrete operational or descriptive stage of cognitive development provided historical explanations that emerged from personal analogies and concentrated on personal rather than collective motivation or purpose. However, the older adolescent learners who had already attained the formal operational or explanatory stage of cognitive development provided historical explanations of the rational purposive type that were more abstract. Tacit knowledge and familiarity with human action played a greater role in the adolescents' explanation of the historical event than historical skill (see Bereiter & Scardamalia, 1993).

The adult history graduates' explanation bore testimony to their formal operational or explanatory stage of cognitive development, and they used their extensive knowledge base of history to explain the causes of the historical event. Personal agents had almost no influence in their explanation, the most influential factors were structural factors. The adult non-history graduates'

explanation also bore testimony to their formal operational or explanatory stage of cognitive development. Their explanation showed awareness of personal actions as well as structural factors. They used their tacit knowledge and familiarity with human action as well as metacognitive knowledge to explain the causes of the historical event (see Bereiter & Scardamalia, 1993).

## Conclusion and recommendations

According to Walsh (1971:28), given the purpose of history as a record of human events in their proper historical context, the aim of history teaching is to help learners understand and explain such events. Helping learners to understand and explain historical events, teachers should have a clear idea of what constitutes historical explanation, at which level to present the historical events and seek historical explanation, and of how to induce this ability in learners. Evans (1977:38) argued that while learners may be capable of given the "becauses" of events, what "counts in school history" has to be learned. According to Newton and Newton (1999:184) learners learn "what counts" from repeated exposure to it and through the teacher's guidance. Given that they have this guidance, there are still requisites that facilitate or enable a particular historical understanding: for explanatory understanding learners have to construct an understanding that incorporates the reasons and intentions involved in the action (Benton & Craib, 2001:181).

Research on learners' explanatory understanding of historical events is a rather recent endeavour, especially as compared to other domains. For this reason, in this article a generic overview of scholars' views regarding cognitive processes in history has been provided. Along with the literature review, the outcomes of an empirical study of learners' explanation of the causes of colonialism in Africa were included. It became apparent, from the results of the empirical study, that different age and expertise tended to provide different historical explanations.

One of the learners involved in the research project wrote: " … *in Maths you can apply the rules, but for History you've got to work out the rules yourself*". The challenges faced by the learners in this respect should be seen as a means by which teaching opportunities can be identified. Newton's (2001: 185-188) learning pathway model, proved by research and in practice to be effective to induce learners' explanatory understanding ability, might be of value to South African history teachers. There are several important stages in the model at which support to learners can be provided. Stage 1 of the model comprises the requisites. The teacher needs to identify a starting point for the teaching of the historical event, and be clear about the flow of "happenings" and why things took the course they did. This will lead to planning with clear targets in mind and explicit types of understanding (descriptive, observational, explanatory) to be developed as the history topic unfolds. Stage 2 of the model comprises the actualisation of the prior knowledge of the learners. The teacher needs to find out what ideas and experience the learners are bringing to the classroom. Related concepts and prior experience with topics bearing

on the new historical event can all be recalled and rehearsed. This will provide a wider context into which the new historical event can be embedded.

Stage 3 of the model comprises the process of constructing an understanding of events — the story with causes. The event is to be introduced and explored so that descriptive understanding can be constructed. The key characters are to be introduced, their motives and feelings explored, the relevant events going on around them described, and the sequence of those events given. This all provides the immediate context for the new understanding and justifies why the starting point is the way it is. Stage 4 of the model comprises checking that the learners have grasped the key ideas and can give plausible causes for outcomes. The learners need to know why these are plausible. According to Newton (2001:186) teachers often present historical events as pre-digested stories. Narrative is a form well known to learners and readily grasped by them. The narrative approach, however, can risk concealing the possibility that other plausible understandings are feasible. According to Newton (2001:188) attempts to overcome this are generally based on having learners be "history detectives" drawing on primary sources. All of the above transitional stages, one way or another, lead to constructing explanatory understanding — of why things are the way they are or events took the course they did (Newton, 2001:188).

Many of the explanations given by the adolescent learners in Section 3 of the questionnaire were rather simplistic, and although such simplicity might be explained by knowledge and/or processing inadequacies, the fact that simplistic accounts were obtained suggests that many respondents had a rather low or mediocre criterion of acceptability for an adequate explanation of the causes of the historical event. Learners need a strict criterion regarding what constitutes an acceptable explanation of an historical event: It is therefore argued that instruction using Newton's learning pathway model could produce a better idea of a quality explanation.

I have attempted to use research outcomes in the fields of psychology and history didactics to improve history teaching in public school classrooms, and to serve as an introduction to further thought and research in this regard.

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