

CURRICULUM POLICY IMPLEMENTATION IN THE SOUTH AFRICAN EDUCATION CONTEXT: REFERENCE TO ENVIRONMENTAL EDUCATION IN THE NATURAL SCIENCES.

Maluleke Hlanganani Maggie
University of South Africa
nyathelah@limpopoleg.gov.za

ABSTRACT

A growing body of research has emphasised the social processes by which teachers as curriculum policy implementing agents are trained and supported on how to implement policies in the classroom. Yet little attention has been paid to the factors influencing teachers' sense-making of the curriculum policy and how their understanding of policy implementation influences the ways in which they respond to policies. The proposed paper aims at developing an understanding of what influences teachers in their attempt to implement the curriculum policy on environmental education in the classroom. Above all, the paper aims at establishing an understanding from the practitioners' perspectives of the policy implementation that challenges their habitual patterns of teaching, patterns of schooling and that seem to threaten the conventional disciplinary curricular structures that comprised of fixed timetables, dependant on textbooks and little room for outdoor-activities with hands-on dominated activities. The paper will explain in detail factors affecting policy implementation, opportunities for effective policy implementation, and the approaches thereof and also the ways in which the process of sense making takes place.

Keywords: *Curriculum, policy implementation, environmental education, teacher sense-making*

1. INTRODUCTION

This paper primarily aims at contributing to the existing body of knowledge and discourses around policy implementation and practice in schools. Over and above the disjuncture between policy and practice, the paper aims at establishing from the practitioners' perspective what influences the way in which they make sense of the policy and respond to the policy.

This paper is about policy implementation of environmental education as an interdisciplinary approach to teaching and learning within the natural sciences learning area. The implementation of environmental education as an interdisciplinary approach to teaching and learning entails that environmental education becomes part of the curriculum and is taught as cross-curricula component (Department of Education and Training, 1995:20). In this situation, environmental education forms part of teaching and learning in every learning area in the curriculum for the General Education and Training band of South African education system. This means that teachers have to integrate environmental issues within their responsible learning areas, because it

is based on the outcomes, teachers have to follow a learner-centred approach that allows learners the opportunity to become active participants and be responsible for their learning. For learners to develop knowledge, skills and attitudes towards the environment and for the entire teaching that is outcomes based, teachers have to make use of available teaching materials or local resources. Teachers also have to be creative and be able to apply teaching strategies that involve learners and help them to develop knowledge, skills and good attitudes towards the environment. The classroom becomes free, learners become active and take responsibility for their learning, they discuss and share ideas with one another and the teacher becomes the facilitator of the teaching and learning process. Teachers no longer transmit knowledge to learners and expect them to regurgitate everything but the emphasis is on the outcomes (Van Der Horst & McDonald 1997:170).

The paper is located within the field or area of educational policy implementation with an overall aim of developing an understanding of how natural science teachers implement the new curriculum policy of environmental education within the natural science learning area.

2. IMPLEMENTATION OF EDUCATIONAL POLICIES

Research on policy implementation around the world indicates that many educational reforms designed to improve the quality of learning have been more rhetorical than substantive in their impact on the organization. Although schools and classrooms do change but the extent and direction of change is not always consistent with the intentions of policy initiatives (Morris and Scott 2003:71 -84). Such is the results of the gap that exist between the intentions of policy makers and the implementers in schools. The notion of top-down or control models of implementation that can be used to achieve social policy goals play a significant role on the unsuccessfulness of policies. This is precisely because within centralized organizations, there are often problems with the transmission of policy intent from the most senior levels through the mid-level managers to the point of delivery. Morris and Scott (2003:71-84) contend that many policies remain impossible dreams that are incapable of implementation for different reasons. According to Sayed and Jansen (2001: 23), policy failures arise out of variety of factors.

2.1 Constraints and challenges to educational policy implementation

Issues affecting the implementation of policy vary from one school, organization or institution to another. Similar findings have been revealed as aspects that influence the implementation of educational policy and such have an impact on the results. Hope (2002:40-44) states that “transforming educational policy into practice, regardless of the level from which it emanates is not an easy task”. There can be many obstacles to implementing policy including implementers’ indifference or apathy towards the policy, lack of resources, insufficient time for implementation and disagreement about how to achieve results. Spillane (1998:33 - 43) goes on to say the factors

influential to policy adaptation process include individual and institutional agenda, community attitudes, material resources and time. Local educators interpret policies in light of their local vision; policies that fit local visions are endorsed, while those that do not fit are opposed or modified so they do fit. The top-down organizational system is found to have influence on the policy. Morris et al. (2003:71 -84) contends that within centralized organizations, there are often problems with the transmission of policy intent from the most senior level through the mid-level managers to the point of delivery. Many policies remain impossible dreams that are incapable of implementation because of an absence of financial resources or qualified personnel or because they are insufficiently specific or ambiguous (Elmore, 1997:241). Many conventional accounts assume that implementers understand a policy's intended message or that failure to understand results from the policy's ambiguity.

Spillane et al. (2002:387-512) mentioned that implementation agents fail to notice, intentionally ignore or selectively attend to policies that are inconsistent with their own interests and agendas. They are likely to implement policies that fit their agendas and those that do not are more likely to be either opposed or modified to fit to their interests. Some explanations that are influential to policy implementation, focus on the inability of principals to formulate clear policy outcomes or to adequately supervise the implementation process. The inability of state or federal policymakers to craft clear and agents and agencies can undermine local policy implementation (Spillane et al. 2002: 387-512). Adding on that, the behaviours that a policy targets for change and the magnitude of the changes sought affect the likelihood of successful implementation, because policies that press for incremental changes are more likely to endanger positive response and the implementation process. They further mentioned that some conventional account allow for implementation problems resulting from implementing agents' understanding or misunderstanding. Implementation as a minimum includes shared understanding among participants concerning the implied presuppositions, values and assumptions that underlies the whole process. If participants understand these then they have a basis for rejecting, accepting or modifying the policy in terms of their own school, community and class situation. Inadequate or lack of communication among the agents' and agencies results in misunderstanding of the policy that affects its implementation.

The governance system and organizational arrangements that structures the relationship between the principal and teachers has an influence on policy implementation (Cohen and Spillane 1992:143-175). This is normally apparent when responsibility for policymaking is not clearly demarcated or defined in the various branches and levels of government that exercise policy jurisdiction. These arrangements complicate principal-teacher relations because it is often unclear as to which policy signals should teachers attend and adhere to and to whom they are accountable for implementation. Hope (2002:40-44), in his support to the claim, contends that with the implementation of educational policy there are some considerations for principals to

ponder because successful policy implementation also is dependent on principals' ability to influence teacher and staff behaviours.

According to Reimers and McGinn (1997:71), conventional view of policy analysis and planning assume that it is possible to reduce uncertainty about the future by projection of the past. In the conventional perspective, although isolated individuals or small group can do the formulation of policies and plans the intended results are always social and collective. Within the conventional perspectives decision makers use their knowledge to identify the action that implementers should take. In other words, those who make or decide what should be in the policy are seldom those responsible for the policy implementation. Within the conventional perspective appears to exist the separation of knowledge and action that is problematic conceptually as well as in practice (Reimers et al. (1997:71). In most situation people who generate knowledge are not the same people who formulate the policy, who are not the same people who carry out the policy implementation. In such a situation it becomes difficult to and almost impossible for implementers to have the same knowledge as policy makers for them to implement the policy as intended. According to Reimers et al. (1997:71), in practice policy makers have not followed policy advice from researchers and as such policies and plans have not been implemented as intended.

Like with any policy that fails if it does not meet the implementers' interest, Reimers et al. (1997:71) identified few reasons that are associated with policy failure within a conventional approach. The first one is policies fail to live up to expectations because implementation is treated as a separate process from decision – making. Secondly, they are often ignored by rational analysts, is that policies fail because insufficient attention is given to those who will be responsible for their implementation. Thirdly, the reason why policies do not reach schools is that there are no conditions to facilitate the dialogue between policy makers and those expected to implement it and lastly, policies fail because of the dictatorship from the policy makers who do not know the realities and challenges facing local implementers.

2.2 Opportunities for successful implementation of educational policy

As mentioned above that educational policy implementation is accompanied by several constraints that challenges it smooth process of implementation. Hope (2002:134) contends that, school districts and educators are continually broadsided with new policies to implement, and under policy siege, they struggle to find time, resources, commitment and motivation to meet these demands. Within the school situation, principals are the most important key and source of help in policy implementation of educational policy. They are the key in virtually every aspect of school life, they can be initiators, get project started, innovators, they develop new ideas, communicators, they disseminate information and motivators; they exhort others to reach goals

and objectives. According to Hope (2002:134), for the successful policy implementation, principals should:

- ❑ Embrace the Educational Policy

A principal's failure to embrace an educational policy places that policy at risk of delayed or inadequate implementation. The public reception that a new policy receives from a school's principal conveys a message to teachers and the staff. A negative reception may reinforce resistance to the new policy. The principal's attitude can influence teachers' disposition toward the policy and its training component.

- ❑ Conceptualize the Policy in the School Context

It is the principal's role to first conceptualize the policy in the school context. They must take a leading role in creating a vision of the policy and its meaning for the school. The vision serves to motivate teachers and staff to focus their efforts on attaining a goal. The principal should see to it that the articulated vision of the policy should highlight the benefit to be derived from its implementation and embody benchmarks that are practical and attainable.

- ❑ Provide Staff Development for successful Policy Implementation

Staff development must be an integral part of the policy implementation process. This provides knowledge of the why, what and how of the policy and can diminish teacher and staff anxieties and concerns. The process provides them with the tools and skills to perform the tasks associated with effective implementation. Principals must be alert to teachers' concerns about their lack of preparation to implement full inclusion in the school and make sure that they receive some training. Failure to provide such training for teachers and the staff responsible for the implementation of the policy can doom the policy.

- ❑ Provide Encouragement for Policy Implementation

It is rare that change meets no opposition; therefore, the principal must be prepared to promote policy implementation by using encouragement. In this situation praise and positive feedback are two forms of encouragement that provide motivation and support to teachers and staff. Encouragement is a natural tactic that boosts confidence and conveys trust and a belief that the implementer can perform the task. Regular recognition of teacher and staff efforts is a way of encouraging continued implementation. Another form of encouragement is the application of pressure "delicate supervision". There is an agreement that the change process is better carried out with support and pressure. The principal is ultimately responsible for the success or failure of

policy implementation. Therefore, it is important for the principal to know who is effective and also where and when to apply this pressure in the form of support.

- Monitor and Evaluate Policy Implementation

Monitoring involve inspection to determine if implementers are achieving the results intended by the policy and if implementation is congruent with policymaker's intent. Consistent monitoring is an important activity for the principal. A principal's monitoring can include visiting classrooms to observe activities that are congruent with the policy, holding conversations with individual regarding experiences with policy implementation and reviewing data from indicators that reflect change towards the policy's goals.

2.3 Approaches informing educational policies

It has been mentioned earlier that it is not easy to inform educational policy for several reasons (Reimers et al. 1997:71). Several approaches that inform the process of policy implementation have been applied in different studies within the field of policy implementation. However, the efficient and effectiveness of these approaches vary from one inquiry to another depending on the broader aim of the inquiry. Different approaches are / were used for different study purposes. Reimers et al. (1997:71) further describe the process of policy implementation in a cyclic form that comprise of three approaches. In these approaches they trace a progression in the relationship between the researcher and policy maker and also how the lines that separate between implementers and decision makers fade as participation, ownership and collaboration strengthen.

- i. Knowledge Utilization Using Precooked Conclusions

Reimers et al. (1997:71), contend that in this approach, researchers produce knowledge that can inform policies choice. However, the central question in this approach is what the researcher as knowledge producer does to influence the process of policy making. They further maintain that the perspective within this approach range from those proposing efforts to increase the effectiveness of dissemination to those that propose advocacy and social marketing as ways to persuade policy makers. What is common with these perspectives is the assumption that knowledge production and utilization proceed in stages. The first stage that is where knowledge is created and this is the domain of the researcher. In the second stage the two variations of this approach take place which are dissemination and persuasion, here the researcher tries through various means to capture the attention of a seemingly passive decision maker in order to translate the results of the research into policy.

Within the second stage, knowledge is used as dependent on information dissemination and in the process explaining the differences in cultures between researchers and decision makers. The main concern here is how to present a message so that it would be received correctly. Husen (quoted in Reimers and McGinn 1997:77) explains why education research fails to influence policy decision:

“A major reason for the disjunctions between researchers and policy makers is ineffective dissemination. Research findings do not by themselves reach decision makers and practitioners. Researchers seek recognition in the first place among their peers. They place high premium on reports that can enhance their academic reputation and tend to look with skepticism upon popularization (Husen, 1994)”

Reimers et al. (1997: 78) further maintain that mismatches between research and policy were explained as failures of communication. These were explained in terms of factors such as messages being too long, use of unfair terminology, presentation of data in tabular form or using sophisticated analyses and different timing for researchers learned to use graphs, to avoid technical terms and to keep the messages simple. The main challenge in this perspective is how to package the message obtained from research in the best possible way to capture the attention of the policy.

After knowledge has been used as dependent on information dissemination, there follows policy dialogue as persuasion. At this stage, once the policy analysts believe that they have the truth, they are required to abandon their neutral, disinterested stance as an objective observer and interpreter of reality and to intervene in the decision process. The main purpose of this process is to convince policy makers to act as the researchers would have them act and to stick to what have been decided on not out of their personal interests (Reimers et al. 1997:80).

ii. Knowledge Utilization Stimulated by Providing Decision Makers with Information

The approaches to utilization of knowledge discussed later emphasized the interests of the knowledge producer, who is not the ultimate knowledge user. This approach assumes that the policy maker is at least as capable as the expert in identifying which information is of most important (Reimers et al 1997:83 – 106). The major distinction between the two is that the former gives priority to the interests of the policy maker rather than to the knowledge producer and the latter view them both as equally capable. All the approaches call for participation by those who will utilize the knowledge. In the former approach the only knowledge that is explicitly recognized come from the experts and in the latter approaches there is a specific attention to the kind of knowledge contributed by decision makers.

According to this approach, the dissemination of research findings to inform policy is problematic because of the differences between how researchers and policy makers think. At

best, dissemination contribute to enlightening the choices made, but given the different worlds of the researcher and policy makers it is hard to engineer impacts of this type of knowledge on decisions. This approach view policy dialogue as negotiation and not as persuasion. Although the two view policy dialogue differently, the common thing to both the perspectives is the treatment of information as the product of rational inquiry and as independent and external to the user of information. Unlike with the former approach, the decision maker is not a passive recipient of precooked conclusions drawn from research but is an active agent with interests and with the power to select between alternative sources of information.

This approach further entails that those who are interested in pursuing rational inquiry to inform policy must engage their client from the onset. To avoid problems of policy failure, research and analysis have to begin with the client in mind if they do not want to risk being irrelevant to the issue of concern to the policy maker. Like in the former perspective, even in this perspective there is a division between knowledge producers and knowledge consumers. Though there is a much higher appreciation for the client than in the former approach and the higher appreciation for the importance of taking the client's needs and views into account at the outset of generating information, there is still a division of labour between the policy maker and the researcher and analyst. In this second approach, there is time for both of them to talk and it is the client who decides how the knowledge produced by the researcher is used and conceptualized. However, the task of generating knowledge is still seen as something that requires the independent work of highly skilled professional specialized in methods of social science research (Reimers et al. 1997: 106).

iii. Informing Policy by Constructing Knowledge

The former perspective, knowledge utilization a using precooked conclusion, and the latter perspective utilization stimulated by providing decision makers with information trace progression in the relationship between researchers and policy makers. The two compare a perspective that sees the former as producers of knowledge and the latter as consumers of knowledge to a perspective that sees policy makers as critical actors in the research process. In this perspective, informing policy by constructing knowledge, policy makers select which products of research to consume and help researchers frame the problems to be investigated so research can be most useful for policy (Reimers et al. 1997: 107). In the previous perspective, policy analysts and experts are seen as mediators between the worlds of research and policy, but the two worlds are still considered being separate. This perspective extends relationship between research and policy. It proposes that researchers and policy makers live not separately but in the same world and that through the process of reciprocal influence they construct knowledge together. The variations of this perspective differ from both the two previous perspective. The focus of this perspective is on the participation of senior policy makers in the research process. The other variation focuses on ministries of education, a complex bureaucracy and proposes the

participation of factors at multiple levels in the research process within and outside the education bureaucracy.

According to Reimers et al. (1997:107), these two variations of this view stem from two different ways to answer the question of who makes policy. In the first variation, senior officials at the top of the education bureaucracy make policy. In the second variation, policy is formed by all actors in the organization and by external stakeholders whose interests are affected by the organization. While the second perspective treat participation as an end in itself, this perspective sees policy as a means to having better policies. Here participation creates ownership in policy reform proposal that will facilitate implementation. This perspective acknowledges the importance of participation and ownership for the successful implementation of education policies. Participation also improves the quality of the knowledge generated to inform options because it brings the experience and perspectives of people who are directly affected by the consequences of those choices to bear on the examination of alternatives. While the second approach view policy dialogue as persuasion, this approach sees policy design and implementation as the domain of the policy maker and not of the researcher or analyst.

This approach comes full circle, it proposes that once the researcher has opened up to listen to and understand the policy maker, and once the researcher and policy maker have worked together designing and analysing the result of the research, the researcher can be invited to go beyond the realm of the analysis of the data. Thereafter, the researcher joins the policy maker in drawing inferences and inventing what should be done to improve the problem they were trying to understand in the first stage. The dialogue between the two moves naturally to the third stage, the design stage.

The collaboration in the design stage helps the researcher to listen and try to understand the perspectives of policy makers. At this point, as both the groups collaborate to make meaning out of data, the dialogue flows beyond the data into what should be done to change and improve the reality that they have been trying to understand together. As the dialogue between the researchers and policy makers continues, the boundary between these activities softens. Each changes the other and together they construct knowledge that can inform policy (Reimers et al. 1997: 107 - 113).

iv. Research – Based Knowledge Approach

According to Finch (1986: 5) as quoted in Smith (2003:175), conducting policy research and understanding how policy is implemented for lasting reform has been debated for many years. Finch (1986:5) argued that qualitative research played a minor role in policy-orientated research work. The reasons for that are: firstly, qualitative research methods were seen as soft, subjective and tentative while the dominant quantitative approaches were said to be hard, objective and

rigorous Finch (1986:5). Secondly, the research and policy were differently organized which often was longer than the policy makers were prepared to wait before coming to a decision. Thirdly, conceptually the worlds of the policy maker and the social scientists differed and that impacted on the focus and the approach to research and policy. The makers of social policy including education policy relied mostly on recommendations emanating from quantitative data analyses and neglected qualitative research (Finch, 1986:110).

Reimers et al. (1997:177), contends that research – based knowledge approach follows a fruitful strategy that involves identifying the multiple groups (stakeholders) that shape how education policies are formed, informed and implemented. To maximize the impact of research on policy formation requires addressing these as part of the process of generating research-based knowledge.

Like any other approach that informs educational policy, regardless of its merits, this approach does have some demerits. The main disadvantage the approach carries is the belief that democratic decision making about education policy is preferable to authoritarian decision making and that the process that allow public scrutiny of policy decisions are superior to the processes (Reimers et al. 1997: 177). This approach view education policies as the outcome of negotiation that is based on the value of democratic processes that involve different stakeholders who are affected by the policy in one way or the other.

According to Reimers et al (1997:177), the gap between implementation and policy is greater when the voices of the key stakeholder have been suppressed in the process of policy design whereas implementation is the area where these voices can be heard. The main aim of the approach is to support decision making with research-based knowledge and to facilitate a dialogue which allows stakeholders to reach not only a negotiated but informed dialogue. Research can bring fresh air and new perspective but it has to be incorporated into a process of communication and participation among stakeholders involved (Reimers et al. 1997: 177-183). In this approach organization learning is encouraged where all stakeholders are involved rather than a single individual learning placed at the top making policies for those on the ground to implement without the knowledge of the reality of things happening on the ground. Like with the final stage of the third approach discussed later, dialogue is an essential condition for organizational learning to take place. Within this approach the expert must be willing to participate in this dialogue at a table with other stakeholders.

3. TEACHERS' RESPONSE TO AND SENSE-MAKING OF THE CURRICULUM POLICY

It has been noted earlier that there are several factors that are influential to the curriculum policy implementation and such factors also bear the responsibility of teachers' understanding and

misunderstanding of the policy. Spillane et al (2002: 387- 512) contends that the process of sense making is characterized in three different stages, viz. individual cognition, situational cognition and policy signal. Although this process is characterised in these three different stages different factors influence their sense making as they move from stage one to the next. Cognitive science scholarship suggest that what and how individuals make sense of the new information or policy message has much to do with their prior knowledge, expertise, values, beliefs and experiences (Spillane et al. 2002:387-512). Teachers' prior beliefs and practices can pose challenges not only because teachers are not willing to change in their direction of the policy but also because their extent of understanding may interfere with their ability to interpret and implement the reform in ways consistent with the designers' intent (Spillane et al. 2002:387-512).

When considering the role that prior knowledge, beliefs and experiences play in shaping teachers' understanding of their policy and their relation to it, the process of sense making in implementing policy underscores the importance of unintentional failures of implementation while still allowing for wilful misinterpretation (Spillane et al. 2002:387-512). Accordingly, what is paramount is not simply that implementing agents choose to respond to policy but also what they understand themselves to be responding to. Empirical research work illuminates the importance of agents' prior knowledge in their implementation of policy. As Cohen and Weiss wrote "when research is used in policymaking, it is mediated through users' earlier knowledge", with the policy message "supplementing" rather than "supplanting" teachers and other implementing agents' prior knowledge and practice (Cohen and Weiss 1993:43 - 55).

All acts of understanding the policy require accessing prior knowledge and applying it to guide the noticing, framing and connecting of new ideas and event to what is already coded in memory. When implementers construct the understanding of the policy, they relate the new information or policy message with the knowledge they already have. The importance of accessing the known and familiar to make sense of the new stimuli (information) has been a recurring theme in cognitive work on comprehension, drawing on early notions of building and using schema from Gestalt and developmental psychology (Bartlet 1932: 715-729 and Piaget 1973: 183-229 in Spillane et al. 2002:387-512). The fundamental nature of cognition is that new information is always interpreted in the light of what is already understood. It is precisely because an individual's prior knowledge and experience, including tacitly held expectations and beliefs about how the world works serve as a lens influencing what the individual notices in the environment and how the stimuli that are noticed are processed, encoded, organized and subsequently interpreted (Spillane et al. 2002:387-512).

Studies on science teachers have revealed similar findings; teachers incorporate reform ideas into their existing beliefs and understanding of epistemology and learning, posing challenges for reform when teachers' tacit models conflict with the intent of policy. They maintain that teachers see new policies in terms of their current understandings, interpreting science reforms such as

standards – based teaching and inquiry in terms of access to more textbooks (Spillane et al. 2002:387-512). Beliefs and experiences have an influence on teachers' sense making of the new information or policy. Kane, Sandretto & Heath (2002:177-228) contend that beliefs vary in strength and kind and over time form a system or network. The stronger the belief, the more resistant it becomes to change. Several researchers, for example Kagan and Pajares (1992:62-90) have supported this claim by mentioning that teachers' beliefs and belief systems are grounded in their personal experiences and hence are highly resistant to change and such condition influences their sense making of the policy (Kane et al, 2002:177-228).

The way teachers make sense of the policy is governed entirely by their prior knowledge, beliefs and experience (Kane et. al, 2002:177-228). In the process of sense making, teachers form connections between the known, the knowledge they have already gathered and the policy intentions or message. In this process teachers tend to assimilate the new knowledge about instruction into their existing frameworks for understanding, in so doing they usually construct understandings of the policy ideas that fit within their existing models. And for those that do not fit, like Spillane (1998:35-36) has indicated they are unlikely to be implemented if not modified to fit their interests and agendas.

According to the cognitive frames, there are number of issues that influence implementing agents' sense making of the policy. According to Spillane et al, (2002:387-512), this framework involves three stages in characterizing sense making during the implementation process. These are individual cognition, situated cognition and the policy signal. Much of the issues and challenges that influence teachers' implementation of environmental education policy in the curriculum are as a result of these stages that characterize teachers' sense making of the curriculum policy. According to Maila (2003:51-53), individual cognition as one of the stages that characterize implementing agents' sense making is critical. Teachers, school managers or curriculum support staff members play a crucial role in this matter. In some schools, principals are perceived by their teachers as unenthusiastic about environmental learning. They are reluctant to participate in environmental initiatives that support the implementation of environmental education policy in the curriculum. As a result of poor support from the principals, teachers are bound to respond to the curriculum policy in ways different to the interpretation of the policy. Some of the principals' knowledge on environmental learning is still very shallow. Maila (2003:54) maintained that some principals see environmental education only in the light of competitions and environmental day celebrations, and such is about learners getting involved in different environmental projects to win prizes. Another issue that remain a challenge with teachers responding to the curriculum policy rest also on the fact that if given an opportunity to attend workshops on the implementation of a curriculum policy, there remain uncertainty with the principals. In some cases, the principals feel that teachers withhold some of the information while reporting back to the other staff (Maila 2003:51-53). At the moment, this is one of the burning issues that teachers are experiencing; teachers attending teacher-training workshops find it difficult to explain as according to the trainer who facilitated the entire

teacher-training to other teachers. Those who were not in the training workshop find it difficult to understand their colleagues' report about the training. Once there is such an uncertainty among teachers themselves, it becomes very difficult for them to support each other and such support is very crucial. Most teachers' response to and their sense making of the new curriculum policy as individuals, is influenced mostly by the old school of thoughts where teachers use to work individually, what and how they teach in the classroom was their own responsibility. The new curriculum policy encourages them to work together as a team, for instance the foundation phase teachers are expected to work together developing learning programmes, work schedules and lesson plans and also the other phases are expected to be working together. Their experiences, beliefs and knowledge and expertise hinder them from supporting and assisting each other with new information that they receive. For instance networking is one of the strategies that can help teachers when implementing environmental education policy, but because of their individual cognition, they are found each one to be working alone, no consultation on any challenging issues. Learners' response to the whole issue of environmental education in the curriculum also has an influence on teachers' sense making. Maila (2003:51) contends that in many instances, because of lack of understanding what environmental education is, learners see it as part of an afternoon activity that does not contribute to their academic performance. Therefore, when asked to clean their school premises or waters their food garden, to them that is part of punishment. They feel that only those who came late for school, trouble makers or those who failed the test should be given that task as part of their punishment. Teachers with their little knowledge about environmental education, trying to explain to learners why are they expected to be involved in such activities find it difficult to convince learners all by themselves, they need support from the other colleagues as well as the department itself.

Not only the individual cognition has a critical role to play in teachers' response to policy and sense making of the curriculum policy, the context where teachers found themselves working also plays a crucial role too. The situation cognition is also very critical and crucial when it comes to teachers' respond to the any new information. The way teachers receive and respond to the information has much to do with the type of the school they are working with, its management, and enrolment, location as well as the availability of resources (Spillane et al 2002:387-512). The availability of resource materials at schools also influence teachers' sense making of the curriculum policy implementation in many ways. For instance, there are some schools that do not have basic resource materials to run their day-to-day activities, e.g. no proper sanitation system. In such cases it becomes very difficult for many teachers at school to teach them about healthy eating habits while they do not have clean drinking water at school, let alone water auditing exercises. Lack of resource materials at schools influence teachers' response to the curriculum policy in that is either they modify the policy to meet the needs and situation of their school or they ignore the policy if its intentions are practical impossible to be implemented at their schools (McLaughlin 1991:171-178).

The policy itself also influence the ways in which teachers receive and respond to it. According to Maila (2003:50), both international and nation policies on environmental education contributed to South Africa's environmental learning policies. Before 1994, environmental education was not part of the formal education curriculum. In 1995, it was then included in the White Paper on Education and Training document and later the policy statement on environment was articulated in the National Curriculum Statement, with an intension to implement environmental policy through one of the six phase organizers. However, the Revised National Curriculum Statement came into existence in 2001 as a streamlined version of the Curriculum 2005, with the principles in the curriculum: social justice, healthy environment, human rights and inclusivity. All these policy processes supported environmental education in the curriculum policy in South Africa. The implementation of an outcomes-based approach to teaching and learning in the new curriculum as opposed to the 'old examination-orientated system' is disabling to most teachers in schools. Because of this policy processes, teachers feel that things are happening very fast and they struggle to keep up with the pace of understanding and implementing the curriculum policy. Before they could start with the implementation of the curriculum policy intensions new things are out, as a result of lack of understanding the entire policy process, they are found to be ignoring if not modifying most of the policy intensions that could be of a help to their situation if effectively implemented.

Like Firestone (1989:151-164), in his support to the statement argued that implementing agents fail to notice, intentionally ignore or selectively attend to policies that are inconsistent with their own interests and agendas. Policies that fit implementers' agendas are more likely to be implemented and those that do not are more likely to be either opposed or modified so that they do fit (Spillane et al. 2002:387-512). At this stage teachers need support from both the principal and the department. This is the crucial stage whereby if enough teachers' support in the form of teacher development, training, networking and other means is not sufficiently provided; curriculum policy implementation will be affected and that might results in failure.

4. CONCLUDING REMARKS

Implementing environmental education into the curriculum in the education system is a major challenge as implementing education policies for our school system. It is the disposition of the key implementing agents towards what is possible implementable to them provided they are given due support to do so. Studies have proven that policy implementation is affected by among other things, key implementers level of understanding, beliefs, attitudes, knowledge, availability of resources and experiences. It has been argued that environmental learning provides opportunities for both educators and learners to make use of the available resources in schools to teach and learn. Schools were encouraged to be environmental active by making use of gardens to teach environmental issues within the different learning areas and some schools have since be doing well in that regard while others are struggling.

It is in this light that this paper aims to develop an understanding of how teachers as key implementers of curriculum policies make sense and respond to the policies. Furthermore, the paper aims to expand the existing knowledge on curriculum policy implementation and contribute to the existing body of knowledge on teachers' sense making of the curriculum policies.

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