Efficient Conceptual Development and Teachers Instructional Material Design for Teaching of Social Studies in Nigeria

Akpanudi, Godswill Asuquo
Department of Social Studies,
Federal College of Education Kontagora, Niger State

A b s t r a c t

This paper examines efficient conceptual development and teachers' instructional material design for teaching of social studies. It considers instructional materials for teaching of social studies as one that should be carefully designed to depict interaction of man within the environment in focus. The paper reveals that most Nigerian teachers are often caught in the web of designing instructional materials that show un interactive objects which limit learners response for incomplete and incorrect perception. The paper also examines relevance of instructional material as progression from level to level depending on how thoughtful it is designed. The paper also attempt to present instructional material relevance in five levels.

Keywords: *Conceptual Development, Teachers Instructional Material Design, Teaching, Social Studies*

Background to the Study

Instructional material is an essential part of the teaching learning process. It can speak for itself in terms of meaning and relevance to use. Instructional materials can hence be designed to entriger learners emotions which is believed to be deposited in and supplied mostly by the instructor, but it cannot play the instructors role. Mangal and Mangal (2010) sees teaching as involving "a triadic relation and a tripolar process involving the source of teaching (human or material), students and a set of activities designed and manipulated primarily to bring changes in the behaviour of the students. Thus, the definition above portrays that both the human and (instructional) materials are the vibrant sources of teaching, hence the material must be designed, presented and manipulated to appeal to both cognitive, affective and psychomotor domains of learning.

Instructional material which must appeal to certain intrinsic behaviour of learners must display physical manipulations. For instance, if a teacher is presenting a lesson on wind; there is no point attempting to draw the wind, as such drawing will be false, and the product of such lesson will be false too. Often, teachers draw scattered objects to represent wind, such can also represent the cloud and as such will generate confusion and cynicism. Wind can not be seen and hence should not be seen but actions of human beings, the trees and/or sand (for desert areas) can show for the presence and studies of wind. Another instance is where a teacher of social studies is treating issues like pollution. The instructional visual material should not only show the types of pollution (Air, land, water and noise) but should most importantly depict the role of man, i.e. the processes of pollutions. He/she may wish to depict a generator, industrial plant, motorcycle or a car on the road (with the driver in action), the polluted air (note that wind and air can not be seen, but when they are in form of pollutants or fumes from exhaust pipes or the likes can be seen because they have colours), and the people (or person) utilizing it, or while on the process of discharging the fumes. These actions do not only create imagery, but also give the material a complete lay out. Such layouts should be arranged sequentially, and the lines and spaces balanced to graduate the perceiver into cogent action (whether intrinsically or extrinsically). Where a generator for instance is depicted alone or with the discharged fumes, perception of the learners may never be clear that these are caused by man. The same is applicable to the other types of pollution, and noise (from humans, or machines).

However, since the instructional material is a source of teaching, it should be thoughtfully designed to reduce the teachers dominance in classroom activities, reduce verbalization, generate and sustain interest, reduce the teacher's planning time and balance learning to co-ordinate the head, heart and hand (Kazi 2012). These thoughtfully designed instructional materials can appeal to the various abilities, capabilities and peculiarities of learner as individuals and as a group. This justifies the adopted material-first-rationale-model by instructional designers and teachers as the best approach to instructional design. Material first rationale model is an instructional design procedure which allows the objectives, methods, contents and learning activities to be selected from the instructional materials (not otherwise) to achieve a more flexible, systematic instruction which is anchored on learner's individuality. Infact, Ibe Bassey (2004) submits that instructional materials designed for the sight and audition if thoroughly designed can also trigger taste (gustatory), kinesthetics and olfactory communication. This may justify why instructional material is unequivocally a source of teaching (and of learning) that cannot be taken for a toil. Etim (2006) inform that the material first – rationale model is built on intuitive task approach, as well as the opportunity models. These approaches embedded in the material – first – rationale model offer a variety of media equal and ample opportunity to surface in the instructional situation whether in group or individually provided that the teacher can handle them to bring about productive outcomes; it also create mental pictures on the teacher – designer.

Interactive Depictions, Sequencing and Visual Materials Design
Man creates institutions for actualization of collective needs of the society. Such institutions provide symbols and form mere representation of the gains inherent in them but man still drive such institutions; so is applicable to other human driven endeavours. In designing an instructional material for teaching and learning of social studies which

centre on man and environment; action of happenings, roles, and duties of the institutions are most paramount. This action does not only create imagination, but also appeal to the psychomotor behaviours of the learners. According to Iheanacho (2002) it is easier to recall the object that go with writing if the learner visualizes an individual writing with a pen on a book than when a pen and a book are visualized lying at a distance from each other. It has the same effect when pictures are used. In other words, interactive depictions (action) are better recalled than uninteractive ones. What I do understand is experiential or experience – related dictum of the Chinese (Ntuk 2012). It is possible to learn from the actions of others when action is visible. A static instructional material that is action oriented or that have interactive depiction can perform a bit of what the learners' may experience themselves or drive them towards curiosity to attempt the action seen on the visual material. That is, the role of perception. Information that are gathered through direct perception of interactive depictions (actions) in instructional material form ideas and imagery that can enhance positive behaviour change than information which require enforcement through verbal explanations to get the units connected; thus, there tend to be a greater interaction between the phenomenal environment (which is represented in the instructional material's background and images, including their respective colours, sizes and shape) and the behaviour environment (which are in the domain of individual learners who are the perceivers, in the form of desirable behaviour) where such relationship is established through interactive depictions in instructional materials utilized in the teaching – learning situations. Kirk (1963) in Ebong and Bassey (1995) sees the phenomenal environment as the real world, comprising natural phenomena as well as man – made world of economic and social facts; while behaviour environment are as perceived in human minds. This distinctions demonstrate that the economic, social and physical facts of the phenomenal environment can only become integral part of the behavioural environment (imagery and actions) of a learner (D) only after they have been correctly perceived by the human mind through an intricate web of cultural filters (represented by actions and colours utilized in the instructional visual materials) and the perceiver's value system (energized by previous experience).

PHENOMENAL ENVIRONMENT
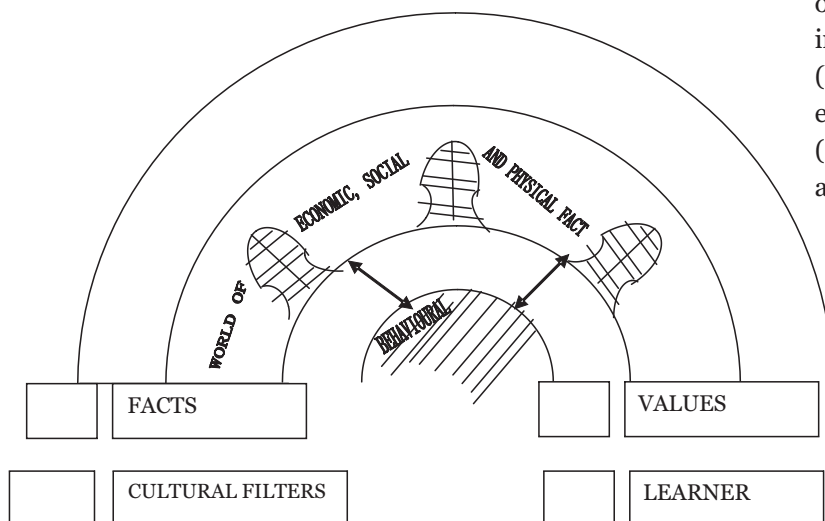
The environment context of human action interactive impact of perceivers (learner) and phenomenal environment
(after Kirk 1963 in Ebong and Bassey, 1995)

Objective of the lesson where stated in behaviour terms using action verbs should be able to correspond with actions on the instructional materials. In all considerations, if the material directs the choice of objectives and methods, the utilization which the behaviour should speak from the material by both the teacher (who may be passive) and the learner (the centre of attraction) would form a working instructional system. For instance, there are standardized features of good instructional objectives, such flow along with the dictates of instructional material.

| S/N	CHARACTERISTICS OF INSTRUCTIONAL OBJECTIVES	CHARACTERISTICS OF INSTRUCTIONAL MEDIA	PRODUCT
1.	Must be specific	Must have specific characters, incontroversial labels, specific to topic at hand	Arouse and sustain interest
2.	Must be measurable in terms of behaviour	Must have measurable labels like woman sweeping. Clear and bold	Reinforce verbal and visual messages
3.	Must use action verbs	Images must portray actions and depict interactions	Sustain attention, enhance clearer perception and create imagery
4.	Must be stated in terms of the learners	Must be designed to capture the learners characteristics, needs and learning styles.	Entrigers learners participation and rehearsals
5.	Must reflect both cognitive affective and psychomotor domains	Must command both cognitive, affective and psychomotor appeals	Provide a blend of experience and reliable source of information
6.	Must be achievable	Must be dependable to selecting the objectives and achieving them	Makes learning practicable and ensure retention
7.	Must be sequential	Must flow sequentially and successively balanced and united in graphic display.	Provide comprehensive experience from concrete to abstract, create lasting impression and ensure recall.
8.	Must be relevant to the lesson	Must be relevant to the topic at hand, portray nature, social relevance, social order and be detailed enough.	Reduce teachers planning time and enhance suitability.
9.	Must state the condition and constraints	Must show the conditions and situations of the subject	Guarantees reflective thinking and imagery
10.	Must state the degree of performance expected	Must be appropriate and complete to enable the degree of performance to be referred from it	It enhances easy evaluation of learning and recall

Sequencing in instruction is systematic and sequential just like the source of instruction which is the instructional material. Rules of sequencing instruction is very clear as observed by Uche and Enukoha (2004), Mangal and Mangal (2010) etc. they belief that instruction must be initiated from simple to complex, known to unknown, concretes to abstract and general to specific. Instructional material hence must beat all shoddy or shabby design, bringing to the picture from primary, simple, known, concrete to secondary, complex, unknown, abstracts, in order to create in the learners a sense of

understanding and imagination. Today's learning is collaborative, hence requires, careful design of instructional materials.

Social / Cultural Relevance as Considerations in Instructional Visual Material Design

Familiarity of images in instructional materials is essential ingredient of relevance to both the culture and social order of the society; such familiar objects energizes the likelihood of interaction with the learners' as it often reflect their day- to- day experiences. Familiar images are those objects that are readily available and presence in the daily interactions. For example, if the pigment of the body (coloration) of the images (people) in the instructional material is similar to those of the learners, there is an increased possibility of being viewed as real, thus enhance imagination. In buttressing this point, Uche and Enukoha (2014) described instructional material as facilities, equipments and materials including those objects that are familiar to learners and can be obtained locally, to complex industrial product that cannot be obtained locally. This explains that whether the instructional material is by design (locally made or improvised) or is by utilization (obtained from complex industrial products), they should be familiar (socially relevant) to both the learners and instructional tasks. It could be noted that relevance and its absence (of relevance) are in levels. For this purpose, the levels of relevance of instructional material may include but not limited to relevance by conceptualization (relevance to the topics), relevance by structure (self explanation), relevance by nature (its natural outlook or artificial outlook), social relevance (familiarity and gender blend or not), relevance by utilization (use and abuse).

Diagrammatic Expression of Level of Instruction Material Relevance and Level of Learners' Response
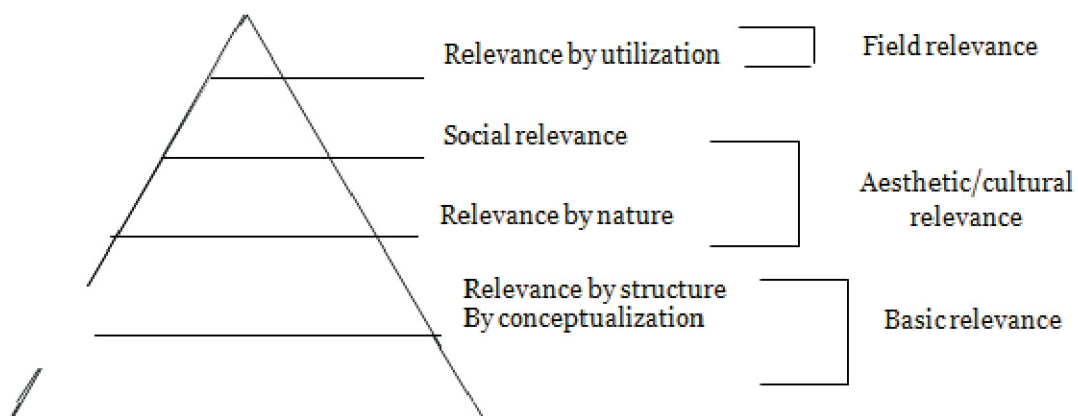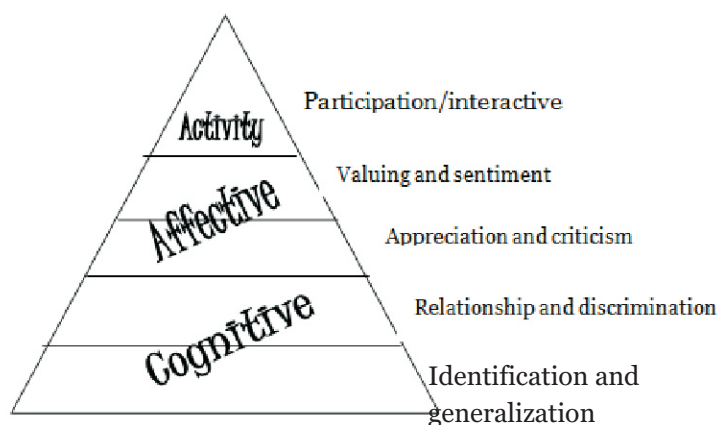
Level of Learners' Response

The two pyramids labeled above as levels of instructional material relevance and level of learners' response represent perceived levels by which the learners interact with the instructional material and vice-versa. In every learning situations where instructional visual materials are used, learners respond differently according to how the images portray the actual situation. The first pyramid labeled "Level of instructional material relevance presents the various levels of visual sensory appeals conveyed by an instructional visual material. It anchors on the belief that little things matter in learning; hence, the more the creative and thoughtful a teacher / designer is while designing an instructional material the more the possibility of the material depicting real situation and consequently appeal to learners' needs, characteristic and learning styles; generate and sustain interests since its familiarity as been enhanced. This part is built on five levels with the lowest category being basic relevance and comprising of relevance by conceptualization and by structure; the second broad category is Aesthetic and cultural relevance comprising of relevance by nature and social relevance; and finally, the field relevance reflecting the process of utilization in the classroom.

The second pyramid however represents the possible responses expected and often elicited by the learners in lieu of the visual properties embedded in the instructional material. This part is dependent on the former (instructional material relevance). There are five levels of learners response as there are five levels of instructional material relevance as show above. This levels are grouped into three broad category like in the instructional material relevance . the most primary being the cognitive process of identification and generalization as well as establishing the relationship and discrimination (difference) of the images depicted. The second ground reflect the affective process of appreciation and criticism as well as valuing and sentiments while the last group is made of one level of activity using neuromuscular process which may also be called psychomotor process of participation and interaction. This section is built on the belief that when an instruction material is technical correct and complete, it retains the attractions to arouse learners into actions and interactions.

Loss of instructional material relevance at any stage or level decreases the likelihood of affecting the learners desired behaviour change.
Relevance by conceptualization means the relationship of the instructional material(s) to the topic at hand. Major characteristics of this level of relevance are sketching of images and labeling them.

This forms the most primary level of relevance because an exceptional learner can manage to (or with ease) relate such material to the issue (lesson topic) and may adduce some relevant facts there from. At this level, the aesthetic and social value of the source of teaching may be lost where the concepts are not finely blended with the other four levels of relevance. For instance, if socialization is the topic at hand, sketching and labeling the agents of socialization may relate with the topic, but that is not enough to make a score good of instructional material for use at any level of education because "what is worth doings is worth doing well" to have effect on the learners.

At this level, learners may know the images, but they may be too general to distinguish them from other things they may resemble. For instance a girl may not be distinguished from a woman, etc. there are no actions to portray the how and where of the information in the instructional materials. Church may be drawn, but what is done there are not highlighted through action as such it may be mistaken for living house.

Relevance by structure, entails that when certain areas are added to the instructional material, they make learning more interesting and pleasurable since the teachers' dominance and the consequent verbalization would reduce. At this level of relevance labeling the pictoral action(s), unity, balance and sequencing, are the core characteristics of the instructional material (especially the graphics). Learners at this level of relevance to their learning needs may in themselves have a feeling of satisfaction and understanding, but truly not have wholistic understanding because although, it is self explanatory, clarity is impaired and hence imagination is limited. These can be tested by giving the learners opportunity to write essay based on the situation in such materials, the aesthetic blend would be lost in the process, and worst still, such essay would expose the fact that only cognitive appeals are embedded (with a little psychomotor appeal); affective characteristics may be completely eluded which is very daring for social studies lesson. Visual literacy must balance cognition with imagery; where this is lost, learning is impaired. Of course, where the material – first – rationale – model is not invoke, the teacher too may be limited in scope to only cognitive and extrinsic behaviour appeals since the aesthetics are lacking. Learners at this level may well establish relationships and differences (discrimination) since actions are pronounced to give an impression of what the material presents. Albeit, it still cannot pass a media effect litmus test as it enhance little imagery, but cognitive dominance.

Relevance by nature implies that the material improvised (designed) must best remain natural. Guides to natural nature of instructional visuals are colour, size, shape, texture, clarity, balance and simplistic nature of the instructional material. This area of relevance is far reaching as it does not only provide half hazard or rote learning where absent, but deny the learners of affective opportunities. Colour is very important aspect of instructional material as it provides meaning to the instructional material, Since they have meaning, creates imagery, portrays recency and balance gender opportunities.

However, it is better to bulk the instructional material example designing a chart and separate issues in flips (flip chart) to make them bigger and bolder, than fuse deep concepts into a single wall chart or flex for the purpose of instruction, the bolder the image and labels, the better, more natural and clear in characteristics. There is also equal spatial distribution of images (icons) in the visual materials with maintenance of true shape. Learners however appreciate the image for familiarity and make critical thinking

to fault or support the actions (as good or bad) this is the beauty of affective arousal in learners.

Social relevance here involves subjects iconic familiarity, and gender considerations. Anti – feminist agitations, and gender based researchers have gone along way to stem the tide of female discrimination even in the context of instructional material design and other educational specific areas like system planning, career orientation, word use, educational opportunities, and access to facilities; but racial superiority and differential still exists and remain a visible problem within the context of instructional material design. The twin factors of social relevance and gender balance can cause a lot more harm than one can imagine in a post – learning situation. For instance, there are feminine colours (colours that appeal to females), masculine colours (those that appeal to men) and mixed colours (all purpose, heterosexual). These must be considered when designing the media or they become socially biased against the disadvantaged gender which always entriger a feeling of resentment against the teacher, lesson and the benefiting gender. Every human mind moves like pendulum, attention can be caught anywhere, even outside the wishes of the teacher in the same learning situations hence the need to present socially relevant images in visuals. Social relevance affects career choices. An instructional material (which is a source of teaching) that feature a whiteman (the Caucasoid or mongoloid races) in an endeavour (action) may signal (the black learners that such is the career of the whites (e.g pilot of aeroplanes, readers, athletes who are mostly painted whites), but often in Christian religious knowledge materials, the devil is always painted negroid (black) which portray a negative signal on the learning of the black – child. Revolution against such irrelevant lessons may not be intentional as per the learners, as such may manifest in both gentle or mild and serious anti social behaviours. Such gentle or mild revolution may be sleep in the class while lesson is on. Sleeping in an action – dominated – setting like the teaching – learning situation may be caused by emptiness of mind where the sources of teaching – human and material can not engage the learner's mind.

Noise-making or divided attention may be a hard revolts or serious anti social behaviour in the class against the lesson, as learners seek to engage themselves for failure of the material to appeal to them or meet their needs. At this level, learners' sentiments are exposed through some values sensitive questions they ask. Sentiments are more or less a permanent and organized system of emotional tendencies and impulses centred about some object or person (Mangal, 2009) such emotions are achieved when they are blended with perceivable characteristics that make the emotional tendencies and impulses more organized. Some important sentiments exhibited by the learners in the class or outside the class include patriotic, religious, intellectual, self regarding, moral, social and aesthetic sentiments. They are better when entrigered to achieve a positive goal of social studies whose objective are relevance to the types of sentiment presented above. Learners evaluates themselves quietly based on previous experiences and understand their strength, weakness, opportunities and threats as well as reflect on the direction of their future.

Relevance by utilization here is specific. Instructional material energizes communication in the teaching-learning situation. While materials may be superbly designed, it may suffer applicability problems. Applicability involves using appropriate materials for

appropriate situation (Abimbade 2006) to him, people can learn facts from things (materials) but they learn attitude from people. This entails that the teacher must display copiable attitude that match the task when providing guides (teaching) to learners using the instructional visual material. Knowledge without ability to impart effectively to students is ineffective and useless (Quintilian 95AD in Uche and Enukoha 2004 and the material purportedly used is worthless and irrelevant. Thus, a teacher can reduce the relevance of a finely designed material for misuse. Media misuse here involves inefficiency in use of media to achieve a clearly defined objectives of the lesson. It can cause misconception of (or deviation for) ideas, cause confusion and make a learner hate a subject and never to gain back the motivation (Abimbade, 2006). The end point of material design is during utilization. Before utilization the media is still a prototype until used.

However, relevance by utilization also involves environmental friendliness which denotes that the designer must understand how the magnificent design can be utilized. For instance, if a chart is to be hanged against the wall, then space must be provided and designed to fit in the material that would aid the hanging and the four edges protected against folding. This area is important because the working of the brain, and attention sustenance is individual specific; what creates psychological noice to one may not be to another, hence learners characteristically differentials and learning styles must be put to consideration during the design stage, which must have bearing on the utilization in the teaching/learning situation. Imagine a situation where a teacher designed an instructional material in a cardboard (which dominates improvised material type today) and fold it to the class; he may take a huge time to unfold and straighten it. This situation has a multiplier effect; some learners may seize the opportunity where the teacher is missing in action to introduce other irrelevant issues in a decodable form of communication among themselves; jettison the teacher as he struggles with the material whereby loosing grip of some of the classroom (previous) discussions before the incidence; worst – still, time has been wasted such that promptness may be overtaken, or other areas may suffer negligence or inappropriate emphasis. At this level of relevance, learners share experiences, ask causative, remedial and effect directed or other relevant questions bothering on the intrinsic characteristics of the material.

Academic discuss bothering on teaching and learning must make mention of relevance or its synonyms because of its importance; this justifies why every instructional (information carrying) material must be relevant; it must answer question ranging from relevance to the needs and culture of the society, relevance to the demands of the various employers (of labour), relevance to the expectations of the parents and religious bodies, and most importantly, relevance to the needs, aspirations, characteristics and learning styles of the learners. Every instructional material must be designed to carter for the learning styles and needs of a vast majority of the class in their various academic (and social characteristics), hence must be complete. Models may learn personality from such materials, artists may learn the nitty gritty of designing, others may learn other things; little wonder the expected level of responses is always measured in percentages (e.g., at least 80% of the students should be able to …….. correctly) during the statement of instructional (behavioural) objectives for every lesson to enable a thorough evaluation of the outcomes (step - after - another).

Every higher level of relevance is complementary, the opportunities in the lower levels of relevance are not lost, but consolidated. The ill – elements of the lower levels are only

erased while opportunities for opportunistic and desirable learning are enhanced. It is note worthy that relevance is progressive and process oriented; hence, any instructional material that is designed for social studies may be relevant, so far aspect of the lesson or the whole lesson can be explained through its usage; but it may not offer the effect needed for an affective – oriented and process – designed course like social studies whose only laboratory is man and his undertakings (influenced and being influenced by/or) in the environment which is his fenceless or boundless resource centre.

Conclusion and Recommendation
Instructional visual materials are representation of the real life situations and social order. It has cultural and social undertone, thus, it must carry images that are familiar and approved by the culture of the people. These visual materials should be built to clearly describe the ideas they seek to portray; hence, it is essential to present interactive depicting images to the learners. These interactive depictions will not only cause imagery, but also explain why and how some objects interrelate. For effective instructional delivery, it has been recommended that objectives of the lessons, methods, contents and learning activities be determined by and selected form the instructional material; such instructional materials should worth the confident as a veritable source of instruction. The quality of such instructional materials is determined by it cultural and social relativity (relevance), learners' friendliness and suitability to their learning needs and characteristic, ability to explain abstract ideas satisfactorily, attractions that generate and sustain interest and attention, and ability to create a lasting impression that would motivate recall in tests and actual situations; thus become relevant to the learning task, learners' needs and instructional objective.

However, five levels of relevance and learners' responses are established in this papers, where the interactive (action) depictions are embedded in the instructional materials in addition to effective natural colours with meaningful background, clear and bold labeling, balanced gender opportunities in familiar images well arranged sequentially, balanced and united as well as the environment of teaching and learning considered during the design stage; the instructional material becomes a dependable, relevant, trustworthy, dynamic, competent and objective source of information for teaching and learning of social studies whose human actions and interactions in addition to environmental order are very important. It may be safe to say here that a real direct experience is the most relevant source of learning and teaching but when they are depicted in visual material it should be technically complete or stand to loose some elements of relevance. Learners respond to the instructional materials utilized according to the level of relevance to their needs, characteristics and learning styles. Hence, instructional material that is not totally correct may deter the learners' opportunity to achieve from such lesson in a near similar level or balance their abilities to retain learnt materials where such visual material is technically correct.

From the foregoing, the recommendations for design of a technically complete and correct (relevant) instructional material for any social studies lesson may include.
Teacher – trainers should emphasize on interactive depicting - visual materials with natural colours, familiar images and other visual characteristics during preparatory orientation, and micro teaching session against the actual teaching practice exercises.

Teaching practice supervisors should assess teacher – trainees on teaching practice who are using visual materials in terms of the interactive depictions (actions) colour effect, image familiarity, shape, balance, sequence, unity and other visual characteristics as being relevant; while emphasizing on them (visual characteristics as recommended) against subsequent lessons, visits, and in the course of their teaching career.

Instructional media designers (expert) should involve the processes and settings and perhaps the products as objects of design, taking note of the background and image colours which are best natural, as well as other characteristics as consideration (yardstick) for design of relevant instructional materials for today's learners.

Government should provide clear standards for the teaching profession and avoid recruiting non – professionals into the classroom as the technical aspects of teaching (for instance designing relevant instructional material) may not be achieved by mere observation of the professional as a way of avoiding route and irrelevant instruction.

Teachers, and teacher trainees should do what is worth doing well by ensuring that they plan and design instructional materials that are capable of self – information with images in action, processes not mere settings, true and natural colours, sequential, unity and balance visual materials among others.

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