Journal of Education and Practice
ISSN 2222-1735 (Paper) ISSN 2222-288X (Online)
Vol 3, No.9, 2012

Use of Clinical Supervision Cycle in the Assessment of Teacher Trainees in Physical Education in Kenya: A Study of Teacher Colleges in Rift-Valley Zone

KIRUI Kipngetich E. J. (PhD) 1 and AMHED Osman (PhD) 2
1. Lecturer, Department of Curriculum, Instruction and Educational Media, School of Education, Moi University, P O Box 3900, Eldoret, Kenya.
2. Lecturer, Department of Curriculum, Instruction and Educational Media, School of Education, Moi University, Kenya, P O Box 3900 Eldoret, Kenya.
kiruielias@yahoo.com.

ABSTRACT
The neglect of primary school physical education calls for effective supervision of pre-service teachers for them to engage in effective teaching when they graduate. The purpose of this research was to investigate the use of clinical supervision of pre-service teachers in physical education during teaching practice assessment. Clinical Supervision Model by Cogan and Goldhammer guided the study. Mixed-methods approach and descriptive survey research design were used. There were 233 respondents who took part in the study comprising student teachers, tutors and physical educators. Simple random, stratified and systematic samplings were used. Tools used were questionnaire, interview guide and observation schedule. Data was analysed using descriptive and inferential ($\chi 2$) statistic. It emerged that the clinical supervision cycle was not used in the supervision of teacher trainees. The study concluded that the trainees were denied appropriate supervision. The study recommends that the Directorate of Quality Assurance and Standards (DQAS) initiate the use of Clinical Supervision Cycle in assessment in Kenya.

Key words - Clinical supervision, physical education, pre-service teacher, supervisor, teaching practice (TP), teacher trainees

Introduction

A successful student teaching experience is the keystone of pre-service teacher preparation. As envisioned, one of the main challenges of effective curriculum instruction in physical education in schools is the nature of supervision of teachers during training. If the preparations of teachers are not done well, the results will always be disparities between the promises and realities in schools in the implementation of innovations or even existing curriculum policies as is the case of physical education in primary schools.

Objective of the Study

To investigate the use of clinical supervision cycle in the assessment of teacher trainees in physical education in TTCs in Rift-Valley Zone in Kenya.

Research Hypothesis

HO1 There is no significant relationship between target setting in pre-observation conference and the giving of high quality feedback in post-observation conference to the trainee by the assessor.

Theoretical Framework

This research study was based on the most influential model: the original clinical supervision model, based directly on the models developed by Morris Cogan, Robert Goldhammer, and others at the Harvard School of Education in the 1960s (Cogan, 1973).

The model has three phases: pre-observation conference, observation conference and post-observation conference and the process involves: supervisor establishes the clinical relationship with the student teacher by explaining the purpose and sequence of the clinical supervision, planning of the lessons by the student teacher (in most cases this is done independently), discussion or evaluation of the lesson plan, observation of the lesson plan and recording of appropriate data, student teacher and the supervisor analyse the teaching/learning process (this should follow the observation as soon as possible so that both participants have a clear recollection of what happened), supervisor makes decisions about his or her behaviour and the student teacher's behaviour and learning, and finally, supervisor

and student teacher decide on changes sought in the student teacher's behaviour, and then create a plan for implementing the changes.

Literature Review

Clinical Supervision

Increasing attention is being given to implementation of curriculum, and supervisory aspects of teacher education as with several other areas of teacher education such as teacher effectiveness. Until recently, supervision seems to have been thought about more as a function done primarily by administrators to monitor subordinates. Now there is a contingent of researchers, theorists and practitioners that are emphasizing teacher education as a function of supervision. This latter perspective emphasizes the collegial, congeniality, and face-to-face aspects of supervision and is generally referred to as clinical supervision.

Researchers have constantly noted the importance of supervision in the preparation of novice teachers (Burko and Mayfield, 1995 in Schilling 1998). The way of approaching or describing clinical supervision derives from medical experience. Apprentice surgeons learn their trade by first observing the skilled practitioner at work; then by undertaking surgery under close surveillance. In this way, they begin to develop their "professional artistry" (Schon, 1983; 1987), so is the practice of teaching. Cogan (1973:8), as one of the pioneers of this approach in education has said that "the use of the term 'clinical' has evolved some resistance", but what he particularly wanted to highlight was use of direct observation in the approach.

Supervision is not only part of staff development, remediation of teaching or professional growth, but, its most valuable worth is in the mechanisms it plays in student teaching practice. The procedures of clinical supervision can be more easily integrated into the regular work of pre-service, induction, and in-service teacher education (Acheson & Gall, 1997). "Supervision is not the act of instructing student-teachers, but, rather the actions that enable student-teachers improve instruction" (Glickman, 1998:6). Claude and Smith (retrieved 26th January, 2011) have given the following guidelines that need to be considered for effective supervision: frequent and systematic, consistent, focus on relevant teaching skills, related to training and developmental goals, directed to provide accurate, timely, relevant and objective performance feedback, diagnostic and prescriptive, and goal oriented.

According to Acheson and Gall (1997), the ultimate goal of the supervisor is to improve teacher trainees' classroom instruction. Clinical supervision, therefore, allows for objective feedback, which if given in a timely manner, will lead to improved results. Clinical supervision helps to diagnose instructional problems and provides valuable information which can lead to solving such problems. As a result, teacher trainees are able to clearly see differences in what they are doing in reality, and what they think they are doing.

Where necessary, improvements in instruction are highlighted and teacher trainees, through clinical supervision, are able to develop new skills and strategies which will be replicated as needed. As teacher trainees' instruction improve, their learners will become more motivated, classroom management will be improved and a better atmosphere for promoting learning will exist (Acheson & Gall, 1980).

Teaching Practice

Teaching practice is a major component of teacher education and the preparation of teachers throughout the world. Guyton and McIntyre (1990:514) referred to practice teaching as 'the most universally approved education course'. Teachers themselves have repeatedly identified practice teaching as the single most beneficial component of their teacher education programme (Lortie, 1975). Student teaching practice is the most effective stop on a student's journey from status student to status teacher and so Lortie (1975) concludes that practice teaching still maintains an overwhelming feeling of importance to those involved.

The existence of practice teaching appears universal, yet the structure, timing and implementation of this experience is not, especially on the aspect of physical education assessment. Recent research indicated that practicum teachers are concerned with the expectations of the college supervisors at the expense of whole professional development in the schools which they are affiliated (Woods & Weasmer, 2003). The research suggests that practicum experiences can be enhanced when the concerns of teacher candidates are addressed and acknowledged. Johnson (1993) emphasised the need to evaluate the issues related to practicum experiences and provided suggestions for improvements of these vital, authentic learning opportunities.

There are anticipated sources of frustration for practicing teachers which may vary depending on the structure of the experience. For example, student teachers in Singapore are often sent to schools in pairs, while that is not the case in the US. The UK has committed itself to a partnership model that places more responsibility on cooperating or mentor teachers, than is presently the case in the US or Singapore (Woods & Weasmer, 2003).

As noted earlier in theoretical framework, during teaching practice, the clinical supervision cycle's major components should be repeated several times by college supervisors i.e. supervisor should (1) meet with the trainee and plan for the next observation or lesson, this is the planning or pre-observation conference phase; (2) observe a lesson systematically (and nonjudgmental) and records information related to the objectives of the lesson, this is the classroom observation/data collection phase and (3) in the last phase called post-observation or feedback conference, the supervisor meets with the teacher trainee to (a) analyse together the data recorded by the observer (supervisor), (b) interpret the meaning of this information from the student teacher's perspective, and (c) reach decisions about the next steps.

In Kenya, the training of pre-service teachers in TTCs in Kenya is a two year intensive programme of which Teaching Practice (TP) forms an integral part. TP in TTCs is carried out in three sessions that are evenly distributed throughout the training course. TP is important for the preparation of student teacher's career.

It is intended to:

1. Provide an opportunity to develop a positive approach and attitude to the school and the school community which facilitates the growth in professional awareness and development of the student teacher.
2. Provide a chance to establish relationships with learners, teachers and other stakeholders involved in education provision.
3. Provide an opportunity to discover and develop one's ability as a teacher.
4. Provide an opportunity to have classroom experience and apply the theories and skills learnt in college (Thungu et al, 2008).

Activities that student teachers engage in prior to TP include micro-teaching (scaled down version of real teaching), lesson demonstration (exposure of a model teaching lesson in a neighbouring school by the tutor) and observations (student teacher spending a day or two in the schools they will be practicing).

Methodology

Research Paradigm

According to Creswell (2003), Sparkes (1992) and Gartrell & Gartrell (2002), there are the positivist and post-positivist paradigms. The researchers' inclination in this study is post-positivism. This approach gives way to both qualitative and quantitative methods. This is described as critical multiplism (critical implies the need for rigour, precision, logical reasoning and attention to evidence, and multiplism refers to the fact that research can be approached from many perspectives) (Bryant, 1992; Sparkes, 1992). The choice and adequacy of this paradigm found its roots in the assumptions and or beliefs that the researchers holds true about the nature of the training of pre-service teachers in physical education and the use of clinical supervision cycle to assess them in physical education during their teaching practice. Such beliefs were based on meta-orientations related to the ontological, epistemological, and methodological nature of the physical education curriculum in the school society.

Mixed-Methods Methodology

The current study is eclectic of the quantitative and qualitative approaches. This improved the accuracy and validity of the research findings (Tashakkori & Teddlie, 2003; Smith, 1990; Reichardt & Rallis, 1994).The preparation of teacher trainees for TP in Physical Education curriculum and the use of clinical supervision cycle to assess the trainees were easily explained using qualitative approach. The results were best explained as the respondents' insights were captured. This study used quantitative approach in order to inform on the sample size of the respondents, quantify categorization of respondents, and present the means, percentages and even apply chi-square statistic in order to further understand the differences noted in the descriptive statistics on aspects of training of teachers in physical education.

Mixed-methods in this study neutralized bias and convergence of results. In this way the effectiveness of eclecticism in this study was informed on the premise that the weaknesses in each method were augmented by the strengths of the other, in any case social reality (positivism) does not exist independent of the social actors (post-positivism).

Research Design

Kumar (2005) says that research design is the conceptual structure within which research is conducted. In this study research design refers to strategy to integrate the different components of research in a cohesive and coherent way in order to address the defined research objective. This study utilised a descriptive survey research design. This study surveyed the use of clinical supervision in student teachers' assessment in physical education during teaching practice. This descriptive survey study provided both quantitative and qualitative information from a representative

sample of the sampling frame as advocated by The Association for Educational Communications and Technology (2001).

Target population

The study targeted TTCs in Rift-Valley – Kenya. Rift-Valley has 5 public TTCs namely: Moi Baringo, Tambach, Mosoriot, Kericho, and Narok. The total population of student teachers in second year of study in all these colleges were 1,563. The total numbers of supervisors in all the five colleges were 271. The sampled colleges had 1,012 second year student teachers and 157 lecturers of whom 11 were physical education specialists.

Sample and Sampling Procedures

The choice of a sample representative of the whole in this study was based on two assumptions. First was the underlying homogeneity amidst the complexity in TTCs. Students in TTCs are similar in many respects so that a study of some of them throws significant light upon the whole group. Secondly was the possibility of a representative selection.

To get a sample that reflected the TTCs accurately as a microcosm (representative sample) and significantly reduce chances of sampling errors in the study, simple random sampling of colleges was done to give each college equal chance of being drawn into the study. Each college's admission register and class lists were used to get a complete sampling frame of the student teachers to minimise frame error. The student teachers were first stratified by criterion (males and females) in order to obtain a primary sampling unit of homogeneity. Respondent were then obtained using systematic sampling. The sampling fraction was calculated using the sampling frame of each college (N) and the sample size decided (n), expressed as n/N and this gave the (kth) student on the list who was picked. All the physical education specialists in the selected colleges were interviewed. A sample of the teacher educators responded to the research questionnaire.

The research tools used in the study were questionnaire, interview guide, and document analysis. The supervisors and student teachers filled out separate questionnaires, physical education specialists were interviewed. Information on the objective and hypothesis of the study were used in drawing up items in the research instruments. In this study, methodological triangulation of the questionnaire given to the students and the interview of physical education specialists corroborated the information given and also checked respondent effect.

In this study, face validity and content validity sufficed and piloting using test/re-test method was used to determine the reliability of the student teachers' and lecturers' questionnaire. Pearson Product Correlation Co-efficient (r) was calculated between the first test and the re-test, which took place at intervals of two weeks. The calculated r for the student teachers' and the teacher educators' questionnaires were 0.74 and 0.77 respectively.

Data Analysis and Interpretation

To analyse the data more effectively, first, the data was reduced by condensing the material systematically then structured in terms of themes, patterns and interrelationship, and de-textualised by converting extended texts into more manageable forms such as summaries, charts, diagrams and illustrations. Finally, the SPSS computer software was used to obtain descriptive and inferential statistics.

The teacher trainees were given a five-point scale: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1) to assess the extent of use of facets of clinical supervision in their assessment during teaching practice. The means (μ) of the various facets/features were calculated based on the responses given by the respondents and the scale was used to determine the level of agreement to the features shown in Appendix A. From Appendix A and B, the μ and σ clearly indicate the reasoning of the respondents towards the variables under review. For example, the standard deviations (σ) observed are very small meaning that the variations about the μ are minimal. That is to say most of the responses were clustered and not widely spread across the scale.

First, trainees largely denied any pre-observation conference as seen in the μ of 2.10 for the male trainees and 2.26 for their female counterparts, this falls under the disagree category of the scale. A key feature of pre-observation conference is target setting. The male and female student teachers gave means of 2.30 and 2.08 respectively. It therefore implies that the majority of the respondents in this study disagree that there was any target setting before assessment between the assessor and the teacher trainee. That is to say assessment was mainly assessor centred, where he/she was the only one who knew the target areas while the trainee was not cognisant of exactly what the assessor was aiming at in the lesson. In order to corroborate the assertions by the teacher trainees, the college tutors

were asked if they often hold a pre-observation conference to brief the trainees on areas they would be interested in before the lesson begun, and their responses in Appendix B shows a mean of 1.84 (male) and 1.94 (female) and a small standard deviation of 0.33. Actually, most of the assessors do not even let the trainees to know that they would be assessed that day. It would seem that the trainees are caught unaware, where the assessor shows up in class impromptu like a fault finder.

During lesson observation, assessment can either be done fairly or unfairly by the assessor. Appendix A indicates that on average the trainees seem to agree that the assessors were fair in their assessment of physical education lessons during teaching practice. The means were 3.57 and 3.82 for males and females respectively. On the other hand, college assessors said they were indeed fair as shown by means of 1.08 (male) and 1.06 (female) with the lowest variant of 0.26 in Appendix B.

At the post-observation conference, the trainee is given feedback of the lesson observation by the assessor. An analysis to find out if the trainees felt that the feedback given by the assessors were clear, direct and constructive was done. In Appendix A, the trainees felt that the feedback given by the assessors were not clear, direct and constructive to their teaching during the practicum. This is shown by the means that border on the scale of 1.6 – 2.5 at 1.87 and 1.91 for both male and females respectively. These attributes in essence form the basis for improvement by the student teachers in their professional development. Clear and constructive feedback is a function of target setting. If the targets are not set, equally the feedback will be indistinct.

The assessors are often accused of assessing several out-door physical education lessons at the same time. The trainees confirmed to this fact with a mean of 3.93 for the male trainees and 4.24 for the female trainees in Appendix A. This multiple assessment of PE lessons not only shows the status and attitude in which PE is regarded, but it also affects the way feedback is given to students as seen earlier. The sampled lecturers said that it was not constructive for one to assess several PE lessons at the same time. The reasons they gave against the practice included the following: lesson assessment require a lot of concentration, the assessment will not be objective enough and hence unfair to the student teacher, and lack of effectiveness in assessment. It was not clear then why they practice multiple assessments and yet censure the practice. However, some assessors still said multiple assessments was constructive claiming that it was convenient, and that it also increased the number of assessments carried out on that day.

Finally, the trainees ought to be assessed by the same supervisor yet again to make a follow up of their previous feedback and comments and see how the student was developing professionally or whether improvements were perceptible from the preceding assessment. But, 70.3% of the trainees did not want the same supervisor to re-assess them once more. The reason could be that the trainees do not benefit much from the feedback given by the assessors and they (students) saw no need for the assessors to revisit for any follow up assessment.

The interviewed PE specialists were not attuned to the clinical supervision cycle that this study sought to establish whether it was in use in colleges. They seemed to have been familiar with the classroom observation stage and feedback conferencing, but they gave sparse information. Their understanding of post-observation or feedback conference stage mainly hinged on the comments students are given after the lesson, to them it is not an interactive process. The assessor only reads to the trainee a list of several “mistakes he/she committed” during the lesson.

Hypothesis Testing

HO1: There is no significant relationship between target setting in pre-observation conference and the giving of high quality feedback in post-observation conference to the trainee by the assessor.

To test this hypothesis, the Chi-Square ($\chi 2$) test was used. This is because the variables were measured at the nominal and ordinal scales. A significant $\chi 2$ test result indicates that the two variables are not independent. When the value is not significant, variables are independent. The results indicate $\chi 2$ (df 16) = 23.109, $p > 0.05$ (Appendix C). The results are not significant. Therefore, this researcher has failed to reject the hypothesis. There seems to be no relationship between target setting in pre-observation conference and the giving of high quality feedback during post-observation conference to the teacher trainees by the assessor.

Research Finding

Clinical supervision cycle is not fully exploited in the assessment of teacher trainees in physical education at some point in teaching practice in TTCs in Kenya.

Conclusion

It has become known in this study that the use of clinical supervision cycle in the training and assessment of teacher trainees in physical education in TTCs is largely not used. This puts into spotlight the nature and quality of trainees who are expected to insure the lives of the young children and teens in physical education and sports in schools when they graduate from TTCs. Clinical supervision is the creation of a helping relationship between the supervisor and trainee. The use of clinical supervision of student teachers will persuade them to reach their potential without the threat and apprehension that usually accompany supervision and evaluation. As researchers, our understandings are consistent with Bernard and Goodyear (1998) that whenever a trainee is deprived of appropriate training and supervision, the professional community is diminished.

Recommendations

The Directorate of Quality Assurance and Standards in the Ministry of Education should bring in and consequently monitor the use of clinical supervision cycle in the assessment and evaluation of teacher trainees in physical education in TTCs in Kenya.

References

Acheson, K.A. & Gall, M.D. (1997).*Techniques in the clinical supervision of teachers: preservice and inservice applications (4th edition)*, Longman Publishers, 10 Bank St., White Plains N.Y.

Active Living Research. (2009, September 25th). New evidence strengthens case for increasing school-based physical activity. The Surgeon General's Recommendations. Retrieved 25th January, 2011.

Barnfield, K. (2004). *An introductory manual for intern supervisors.* Available at: http://www.psc.uc.edu/rs/tm/TM%20Manual%20for%20Intern%20Superv.htm. February, 12th 2011.

Benard, J. M. & Goodyear, R. K. (1998). *Fundamentals of clinical supervision. (2nd edition).* Boston, MA: Allyn and Bacon.

Burko, & Mayfield. (1995) in Schilling, T.A. (1998). Supervision of student teachers: An invitational approach. *JOPERD*, Vol. 69. As retrieved on 4th October 2010.

Claude, J. & Smith, J. H. (2011). Instructional supervision for physical education. Physical Education Instructional Supervision (PEIS) Model. Retrieved on 27th January, 2011, from http://www.highbeam.com/doc/1G1/155524299.html&ei

Cogan, M. L. (1973) *Clinical supervision*. Boston: Houghton Mifflin.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences. (2nd ed).* Hillsdale NJ: Lawrence Earlbaum Associates.

Cohen, L., & Manion C. (1980).*Research methods in education*. London: Croom Helm Ltd.

Creswell, J.W. (2003). *Research design: qualitative, quantitative, and mixed Methods approaches*. Thousand Oaks, CA:Sage.

Decorby, K., Halas, J., Dixon, S., Wintrup, L., & Janzen, H. (2005). Classroom teachers and the challenges of delivering quality physical education. Vol. 98. No. 4. 2008:220. Retrieved 12th December 2010.

Denscombe, M. (1998). The good research guide. Buckingham: Open University Press.

Foddy, W. (1993). *Constructing questions for interview and questionnaires. Theory and practice in social research*. New York: Cambridge University Press.

Fowler, J. (1999). *The handbook of clinical supervision: Your questions answered.* Wiltshire: Mark Allen Publishing Limited.

Fowler, M. (2002). *Qualitative research and evaluation methods, (3rd ed)*. Thousand Oaks, CA: Sage.

Freeman, E. (1985). The importance of feedback in clinical supervision: Implications for direct practice. *The Clinical Supervisor,* 3, 5-26.

Gallivan, M. (1997). Value in Triangulation: A comparison of two approaches for combining qualitative and quantitative methods. In Lee, A., Liebenan, J., and De Gross, J. (Eds). Information systems and qualitative research, pp. 417-443. London: Chapman and Hall.

Gartrell, C.D. & Gartrell, J.W. (2002). Positivism in sociological research: USA and UK (1966-1990). *British Journal of sociology*, 53(4): 639-57.

Glickman, C. D. (1985). *Supervision of instruction: A developmental approach*. Massachusetts: Allyn and Bacon Inc.

Glickman - Carl, D., Gordon Stephen, P., Ross-Gordon, & Jovita, M. (1998). *Supervision of instruction: A developmental approach (4th Ed.)*. Boston: Allyn and Bacon.

Goldhammer, R., Anderson, R. H. & Krajewski, R. J. (1993). *Clinical supervision: Special methods for the supervision of teachers (3rd Ed.)*. Stout, Rinehart and Winston Inc.

Goldhammer, R, Anderson, R. H. & Krajewski, R. J. (1980). *Clinical supervision- special methods for the supervision of teachers*. USA: Holt, Rinehart and Winston.

Goodyear, R. K. (1982). *Psychotherapy supervision by major theorists*. Manhattan, KS: Instructional Media Center.

Goodlad, J.I., Toephasious, R., and Klein, M.F. (1966). *The changing school curriculum.* New York: The Georgian Press inc.

Greene, J. C., & Caracelli, V. J. (Eds.). (1997). Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms. *New Directions for Program Evaluation*, No. 74, San Francisco: Jossey-Bass.

Greene, J. C., Caracelli, V. J. & Graham, W. F. (1989). "Toward a conceptual framework for mixed-method evaluation design." *Educational Evaluation and Policy Analysis*, 11(3), pp. 255-74.

Guyton, E. & McIntyre, D. (1990). Student teaching and school experiences. In W.
Houston (Ed.), *Handbook of research on teacher education.* New York, NY: Macmillan Publishing Co.

Hardman, K. (1999). The world summit on physical education: Challenges for the next millennium. Pre-All African Games Congress, Johannesburg, South Africa, 6-9 September.

Hardman, K. (1998b). Threats to physical education! Threats to sport for all. Paper presented at the I.O.C. VII World Congress "Sport for All", Barcelona, Spain, 19-22 November 1998.

http://www.faqs.org/health/topics/2/Physical-Education.html#ixzz0wZUihjna as retrieved on 10th July, 2010.

Johnson, S. (1993). Conversations with student teachers – enhancing the dialogue of learning to teach. *Teaching and Teacher Education*, 10: 71-82.

Kerlinger, F. N. (1983). *Foundation of behavioural research*. Delhi: Holt, Rinehart and Winston.

Kothari, C. R. (2006). *Research methodology; methods and techniques (revised edition).* New Delhi: New Age International Publishers

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30, 607-610.

Kumar, R. (2005). *Research methodology - A step-by-step guide for beginners, (2nd .ed.)*. Singapore: Pearson Education.

Lortie, D. (1975). *Schoolteacher: A sociological study.* Chicago: University of Chicago Press.

Mugenda, O.M. & Mugenda, A.G. (1999). *Research methods: Quantitative and qualitative approaches*. Nairobi: ACTS Press.

Psacharopaulos, G, & Woodhall, M. (1985). *Education for development*. World Bank: Oxford University Press.

Schilling, T.A. (1998). Supervision of student teachers: An invitational approach. *JOPERD*, Vol. 69. As retrieved on 4th October 2010.

Sergiovanni, T. J. & Starratt, R. J. (1973). *Supervision: Human perspectives*. In Goldhammer, R, Anderson, R. H. and Krajewski, R. J. (1980). *Clinical supervision - special methods for the supervision of teachers*. USA: Holt, Rinehart and Winston.

Sparkes, A.C. (1992). *The paradigms debate: an extended review and celebration of difference*, in A. C. Sparkes (ed). *Research and physical education and sport*. Lewes: Falmer, pp 9-60.

Tashakkori, A., & Teddlie, C. (eds). (2003). *Handbook of mixed methods in social and behavioural research*. Thousand Oaks, CA: Sage Publications, Inc.

Thungu, J., Wandera K., Gachie L., & Alumande, G. (2008). *Mastering PTE Education*. Oxford: Nairobi, Kenya.

UNESCO
Doc., http://unesdoc.unesco.org/images/0011/001140/0114032e.pdf\page=30 http://portal.unesco.org/en/ev.php-URL ID=13150& URL DO=DO as retrieved on 25th November 2010.

Van Deventer K. (2003). Physical education in schools: South African case: Retrieved 24th November, 2010 from http://www.cwu.edu/~deventer/van_saipe.html.

WHO. (2007). *An up-date on the status of physical education in schools worldwide: Technical Report for WHO*. Geneva: World Health Organization.

World Declaration on Education for All. (1990). *Development of education in Africa: The Kenya experience*. Nairobi: Initiative Ltd.

Ziman, J. (2000). *Real science: what it is, and what it means*. Cambridge, UK: ‼ HYPERLINK "http://en.wikipedia.org/wiki/Cambridge_University_Press"¶ Cambridge University Press