IOSR Journal of Research & Method in Education (IOSR-JRME)
e-ISSN: 2320–7388, p- ISSN: 2320-737x Volume 14, Issue 5 Ser. 1 (Sep. – Oct. 2024), 01-06
www.iosrjournals.org

Influence of Time Allocated For the Implementation of Mathematics Curriculum and Syllabus in Secondary Schools for the Deaf in Kenya

FONDO, Hassan Kalama
Citation: Fondo, H.K., (2024)

ABSTRACT
Mathematics is one of the three science subjects offered in the 8-4-4 system of Education in However, previous studies have indicated low performance in the subject to learners with hearing impairment in the Kenya Certificate of Secondary Education (K.C.S.E) examination in comparison to other subjects. The underlying cause of such performance in Mathematics by deaf learners had not been brought to surface. For this reason, the purpose of the study was to find out the influence of curriculum perspective on academic performance in Mathematics in schools for the deaf in Kenya, in relation to time allocated for the Mathematics curriculum implementation. The study was guided by the constructivist theory which states that knowledge must be created and the social learning theory whereby learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, absence of motor reproduction or direct reinforcement. It employed descriptive research design the study will be carried out in Kisumu County. The sample of the study will comprise four heads of department, 8 teachers of Mathematics and 100 students taking Mathematics. Data was collected using questionnaires, interview schedules and document analysis. The reliability of the data collection instruments was ensured through reviews done by the experts. Quantitative data was analyzed using frequency counts, percentages and mean. It might be helpful to the examiners of schools, curriculum developers, and quality assurance officers of Mathematics in schools for learners with hearing impairment including all those students who wish to take Mathematics as their subject of choice. May also improve the performance of Mathematics in schools for learners with hearing impairment. The results of the study indicated that the time allocated for the implementation of the curriculum used a mean of (2.910). The research concluded that time allocated in syllabus coverage wasn't enough since curriculum is rigid for such learners and some topics are so abstract in the sense that there is a lot of application in solving mathematical problems. The study therefore recommended that for more instructional time during evaluation because by allocating more time to them then they are able to finish their work hence improving their performance.

Date of Submission: 26-08-2024 Date of Acceptance: 05-09-2024
Author: FONDO, Hassan Kalama
Citation: **Fondo,H.K., (2024)**

I. BACKGROUND TO THE STUDY

The more content within the syllabus students cover, the higher chances of better achievement in Mathematics examinations. In a study done in Nigeria, 10 teachers of Mathematics and 482 students from 10 secondary schools in Delta state were sampled and they responded to two instruments namely, Mathematics Content Coverage Rating Scale (PCCRS) and Mathematics Achievement Test (PAT). It was found out that whenever much content within the Mathematics syllabus was covered, students' achievement in Mathematics was rated high. This meant that if more syllabus content was covered, then students had a better chance of performing better (Abamba, 2012).

The breadth of the syllabus is likely to affect the performance of any subject among students. According to Isaac Buabeng's (2014) study on Mathematics teaching in senior high schools in Ghana, a reasonable percentage of Mathematics content materials are left uncovered before students sit for their final examination. Similar findings were discovered by Ajaja (2009) in Delta State, Nigeria, where greater portions of science content materials are not covered in the public schools. According to Ajaja (2009), incomplete Mathematics syllabus can be attributed to teacher incompetence.

Studies done about learners with hearing impairment have discovered insufficient time, wide syllabus, abstract content within the syllabus as barriers to completion of syllabus in time. For instance, Mukangu (2008) conducted a study on teaching methods, learning resource and utilization strategies by teachers and learners to identify instructional resources and their pedagogical constraints to teaching social studies at Kerugoyaschool

for the deaf. The study targeted a population of 160 respondents and sample size of 88 respondents. From his study, he finds out that the time allocated for syllabus coverage to teachers of the deaf is not sufficient to cover the entire syllabus. His findings agree with those in a research done by (Nyokabi, 2011) in four secondary schools for the deaf in Kenya on curriculum factors influencing the performance of deaf students in mathematics, which found out that 90% of teachers in these schools never clear the syllabus on time while only 10% made it on time. This was attributed to; some difficult topics as perceived by learners, difficult topics as posted by teachers, the learning speed of the learners which implied that teachers had to dwell long than required to cover some of these topics.

Nyokabi, 2011 also found out Topics that were abstract, involved a lot application, required visualization and used specific language that required comprehension and correct interpretation were reported as difficult. From these findings, (Nyokabi, 2011) recommends a revision and simplification of the language used in textbooks and examinations meant for deaf students. More instructional time for deaf learners is also suggested to improve performance of mathematics among deaf high school learners.

It is clear from previous studies that the more content within the Mathematics curriculum, better is the achievement of learners of Mathematics. Incompletion of the Mathematics syllabus within the curriculum have been attributed to wide syllabus, insufficient time and difficult abstract topics within the curriculum for deaf learners. What is not clear if these are the only factors that affect Mathematics syllabus coverage for deaf learners and if recommendations from previous studies have been considered in Kenya? It is therefore necessary for a study to fill these gaps and to add to the body of knowledge.

PURPOSE OF THE STUDY

The purpose of the study was to evaluate the time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya.

II. RESEARCH METHODOLOGY

The study adopted descriptive statistics research design. The study was carried out in Kisumu County. The target population was the schools for the deaf in Kenya. However, not all the secondary schools offer Mathematics as a subject to KCSE level. Of the many secondary schools for the deaf, one is a boys' boarding secondary school for deaf, one is a girls' boarding secondary school for the deaf and 19 are mixed secondary schools for the deaf. Reliability of the instruments was established through test-retest method on 10% of study population using Pearson correlation, reliability was accepted at 0.7 and above. Quantitative data was analyzed in percentages and mean whereas qualitative data was transcribed, analyzed and reported in emergent themes and sub-themes.

III. RESULTS AND DISCUSSIONS

The attributes for evaluation of the time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya consists of a set of four (4) statements to which respondents respond using a five-point Likert scale. The questionnaires related to them exposed to enough mathematical practical sessions, the time allocation for mathematics lessons is sufficient for them to understand the concept being taught, mathematics syllabus is usually cleared on time and lastly their score in mathematics can improve if mathematics exams are set in the Kenya sign language structure.

The questionnaires worded both in the positive and negative sense ranging from 'strongly agree' to 'strongly disagree'. For the positive sense questions, a value of 5 was assigned to 'strongly agree, decreasing values of 4,3,2,1 were given to the other questions, where "strongly disagree was assigned the value 1. For the negative sense questions, the values had assigned in the opposite sense. The questionnaire was analyzed to evaluate the time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya

Based on the variables were used to get the responds in percentage and mean which was used to determine the time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya.

Table 1 Evaluate the time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya.

Students' feeling/ opinions	**Responses (%)**					**Mean**	**Std. deviation**
	SA	**A**	**N**	**D**	**SD**		
Exposed to enough mathematical practical sessions	2.5	20.0	15.0	42.5	20.0	2.43	1.107
The time allocation for mathematics lessons is sufficient for them to understand the concept being taught	12.5	25.5	20.0	20.0	22.5	2.85	1.396

Mathematics syllabus is usually cleared on time	7.5	7.5	15.0	45.0	25.0	2.28	1.154
Score in mathematics can improve if mathematics exams are set in the Kenya sign language structure	40.0	40.0	10.0	7.5	2.5	4.08	1.023
Grand mean						2.91	

Key; **SA** means strongly agree, **A** means agree, **N** mean neutral or not sure, **D** means disagree, and **SD** means strongly disagree.

From table 1findings indicated that a mean of (4.08) of the respondents score in mathematics can improve if mathematics exams are set in the Kenyan Sign Language structure. The time allocation for mathematics lessons is sufficient for them to understand the concept being taught had a mean of (2.85) of the respondents, further to this a mean of (2.43) said are exposed to enough mathematical practical sessions while a mean of (2.28) said the mathematics syllabus is usually cleared on time and the grand mean for all the variables used in the objective was (2.91) which indicated the evaluation of time indicated towards implementation of the mathematics curriculum and syllabus for the secondary schools for the deaf in Kenya.

Based on the variables were used to get the mean which was used to evaluate the time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya using the means score of each variable on the table.

Table 2 Level of Variables

Mean score	**Time allocated for mathematics**
1.00-3.00	Inappropriate
3.00-5.00	Appropriate

This implies the between the mean of 1.00 to 2.50 means that there is inappropriate time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya, and between the mean of 2.51 to 5.00 implies that there is appropriate time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya.

In relation to the finding for the variables of the respondent the grand mean was 2.915 which implies that there is appropriate time allocated for the implementation of Mathematics curriculum and syllabus in secondary schools for the deaf in Kenya hence the method is good for learning mathematics. From the findings it was found out that time allocated to Mathematics delivery of contents and even during evaluation was insufficient hence curriculum not fully implement. The above findings we supported by follow researchers and scholars and they found out that;

Studies done about learners with hearing impairment have discovered insufficient time, wide syllabus, and abstract content within the syllabus as barriers to completion of syllabus in time. For instance, Mukangu (2008) conducted a study on teaching methods, learning resource and utilization strategies by teachers and learners to identify instructional resources and their pedagogical constraints to teaching social studies at Kerugoya School for the deaf. The study targeted a population of 160 respondents and sample size of 88 respondents. From his study, he finds out that the time allocated for syllabus coverage to teachers of the deaf is not sufficient to cover the entire syllabus. His findings agree with those in a research done by (Nyokabi, 2011) in four secondary schools for the deaf in Kenya on curriculum factors influencing the performance of deaf students in mathematics, which found out that 90% of teachers in these schools never clear the syllabus on time while only 10% made it on time. This was attributed to; some difficult topics as perceived by learners, difficult topics as posted by teachers, the learning speed of the learners which implied that teachers had to dwell long than required to cover some of these topics.

Nyokabi, 2011 also found out Topics that were abstract, involved a lot application, required visualization and used specific language that required comprehension and correct interpretation were reported as difficult. From these findings, (Nyokabi, 2011) recommends a revision and simplification of the language used in textbooks and examinations meant for deaf students. More instructional time for deaf learners is also suggested to improve performance of mathematics among deaf high school learners.

According to Ajaja (2009) The breadth of the syllabus is likely to affect the performance of any subject among students. According to Isaac Buabeng's (2014) study on Mathematics teaching in senior high schools in Ghana, a reasonable percentage of Mathematics content materials are left uncovered before students sit for their final examination. Similar findings were discovered by Ajaja (2009) in Delta State, Nigeria, where greater portions of science content materials are not covered in the public schools. According to Ajaja (2009), incomplete Mathematics syllabus can be attributed to teacher incompetence.

IV. RECOMMENDATIONS

From table 1 findings indicated that a mean of (4.08) of the respondents score in mathematics can improve if mathematics exams are set in the Kenyan Sign Language structure. The time allocation for mathematics lessons is sufficient for them to understand the concept being taught had a mean of (2.85) of the

respondents, further to this a mean of (2.43) said are exposed to enough mathematical practical sessions while a mean of (2.28) said the mathematics syllabus is usually cleared on time and the grand mean for all the variables used in the objective was (2.91) which indicated the evaluation of time indicated towards implementation of the mathematics curriculum and syllabus for the secondary schools for the deaf in Kenya.

The research recommends for more instructional time during evaluation because by allocating more time to them then they are able to finish their work hence improving their performance.

V. CONCLUSIONS

The research concluded that time allocated in syllabus coverage wasn't enough since curriculum is rigid for such learners and some topics are so abstract in the sense that there is a lot of application in solving mathematical problems.

References

[1]. Abamba, E. I. (2012). Content coverage and students' achievements in secondary. Asia-Pacific Forum on Science Learning and Teaching.

[2]. Adedayoo, J. O. (2008). Effect of Electronics Artisans' Background and Competence on Science and Technology Advancement in Nigeria. Research in Curriculum Studies, 132-136.

[3]. Adeyemo, S. (2011). The effect of teachers' perception and students' perception of Mathematics classroom learning environment on their achievement in senior secondary school Mathematics. International Journal of Education Research and Technology, 74-81.

[4]. Ajaja, P. (2009). Evaluation of science teaching in secondary schools in Delta state: Teaching of the sciences. International Journal Of Science Education, 119-129.

[5]. Ajayi, P. (2008). Evaluation of the implementation of senior secondary school Mathematics in south west Nigeria. Edo-Ekiti, Ekiti, Nigeria.

[6]. Ajayi, S. (2009). Effective Teaching of Mathematics. Effective Teaching of Science in Ekiti State. Ekiti: Ministry of Science and Technology, Ado-Ekiti.

[7]. Ajibade, A. (2010). Teaching Effectiveness and Attitudes to Reading of Secondary School Teachers in Osun State, Nigeria. Online Journal of the African Research Network.

[8]. Alshehry, A. T. (2014). Investigating Factors Affecting Science Teachers' Performance and Satisfaction toward their Teaching Process at Najran University for Girls' Science Colleges . International Journal of Higher Education , 75.

[9]. Amadalo, M. M. (2016, May 17). Disparities in the Mathematics Academic Achievement and Enrollment in Secondary Schools in Western Province: Implications for Strategy Renewal. Retrieved from Academia.edu: http://www.academia.edu/1417853

[10]. Apuzzo, L., & Yoshinaga, I. (1998). Early Identification of Infants with signifiacant hearing loss and the minesota child development Inventory. Semin Hearing, 124-137.

[11]. B, A. T., & Obafemi Deborah T. A. (2015). Ordeals of Mathematics Instruction in Nigerian Secondary Schools: Way Forward for the Attainment of Global Competitiveness . Journal of Education and Practice , 87-96.

[12]. Bajah, S. T. (1998). African Primary Science Programme. Ibadan, Ibadan, Nigeria: University of Ibadan.

[13]. Bassey, M. P. (2002). Availability of resources for the teaching of science subject in public secondary schools. A case study of some selected secondary school in Alimosho Local Government.

[14]. Bryson, J. (2013). Language of Instruction and its impact on Quality of education in secondary schools; Experiences from Morogoro region, Tanzania. Journal of Education and Practice Vol.4.

[15]. Cracker, D. E. (2006). Attitudes toward science of students enrolled in introductory level science courses at UW-La Crosse. UW-L Journal of undergraduate research, 1-6.

[16]. Cripper, C., & W.Dodd. (1984). Teaching English and its use as a medium of instruction in Tanzania. Arusha: ODA/British Council.

[17]. David, H. M. (2010). Applying the Methods of Mathematics to Education Research. Applying the Methods of Mathematics to Education Research. Nanyang, Singapore: Nanyang Technological University.

[18]. Davis, J. (2007). Performance of young hearing-impaired children on a test of basic concepts. . J Speech Hear Res, 342-351.

[19]. Elefant, E. F. (1980). Deaf Children in an inquiry training Program. The Vota Review, 271-279.

[20]. Ergin, I. (2012). Teachers' views about the application of secondary. International Journal of Physical Sciences, 5981-2990.

[21]. Ergin, I., M. Safak, & S.K Ingenc. (2011). Ortaöğretim 9. sınıf fizik dersi öğretim programının öğelerine ilişkin öğretmen görüşleri. e-Journal of New World Sciences Academy, 2537-2554 .

[22]. Fenech, M. (2006). The Impact of regulatory environments on early childhood professional practice and job satisfaction. A review of conflicting discourses. Aust. J. Early Childhood, 49-57.

[23]. Friend, M. (2008). Special Education. Contemporary Perspectives for SchoolProfessionals, 2nd Edition. North Carolina: University of North Carolina.

[24]. George, R. (2000). Measuring change in students' attitudes toward science over time: An application of latent variable growth modelling. Journal of Science Education and Technology, 213-215.

[25]. Gok, T., & Izmir Turkey. (2011). Perceptions of the Students toward Studio Mathematics. European J of Mathematics Education.

[26]. Harbison, F. (1973). Human Resources as the wealth of Nations New York. New York: Oxford University Press.

[27]. Harrison, M., & Roush, J. (2012). Age of suspicion, identification, and intervention for infants and young children with hearing loss: a national study. Ear Hear, 55-62.

[28]. Hazari, A., Tai, R. H., & Sandler, P. M. (2007). Gender Differences in Introductory University Mathematics Performance: The Influence of High School Mathematics Preparation and Effective Factors. . Science Education Journal, 847-877.

[29]. Holubova, R. (2015). How to Motivate our Students to Study Mathematics. Universal Journal of Educational Research, 727-734.
[30]. Isola, O. (2010). Effects of standardized and improvised instructional materials students' academic achievements in secondary school Mathematics.
[31]. Jackson, C. K. (2010). Match quality, worker productivity, and worker mobility: Direct evidence from teachers. National Bureau of Economic Research.
[32]. Jefwa, M. G. (2014). Diversity in education: Kenyan sign language as a medium of instruction in schools for the deaf in Kenya. . Nairobi: University of Nairobi.
[33]. Kapucu, S., & Ufuk Yıldırım. (2013). Mathematics Teachers' Behavioral, Control and Normative Beliefs about Teaching Mathematics According to the National High School Mathematics Curriculum in Turkey. International Journal of Environmental & Science Education , 133.
[34]. Kenya, G. o. (2007, July 1). Kenya Vision2030. Retrieved from Kenya Vision2030: http://www.vision2030.go.ke/
[35]. Kenya, G. o. (2016). Budget Highlights 2016/2017. Nairobi: The Government Press.
[36]. KIE, K. I. (2005). Secondary Education Syllabys. Vol2. Nairobi: Ministry of Education.
[37]. Kirwa, N. J. (2014). Factors Influencing Girls' Low Enrolment And Poor Performance In Mathematics: The Case Of Secondary Schools In Nandi South District, Kenya. .
[38]. Kobiah, L. K. (2016). Teachers' Perspective Towards Their Involvement in Selection. Journal of Education and Practice, 53-59.
[39]. Kombo, Kisilu, D., & Tromp, L. A. (2006). Proposal and Thesis Writing: An Introduction. Nairobi: Paulines Publications Africa.
[40]. M.Waititu, & G. Orado. (2009). Managing teachers and the instruction of mathematics and sciences Lessons from the SMASSE experiece in capacity development. Tunis.
[41]. Makanda J. Livingstone , Nicholas W. Twoli , & Samson R. Ondigi . (2015). SCHOOL MANAGEMENT'S AND TECHNICAL SUPPORT TO MATHEMATICS TEACHERS AND STUDENTS IN USE OF ICT IN TEACHING AND LEARNING. International Conference on Education, (pp. 187-196). Nairobi.
[42]. Meltzer, D. E. (2006). The relationship between mathematics preparation and conceptual learning gains in Mathematics: A possible "hidden variable" in diagnostic pretest scores. American Association of Mathematics Teachers.
[43]. Miano, P. M. (2008). The Relationship Between Performance in Mathematics and Mathematics at KCSE in Kirinyaga District. Nairobi: University of Nairobi.
[44]. Ministry of Education. (2009). THE NATIONAL SPECIAL NEEDS EDUCATION POLICY FRAMEWORK . Nairobi: Government Printer.
[45]. Mishra, S. K., & B. Yadav. (2013). Effect of Activity Based Approach on Achievement in Science of students at elementary stage. International Journal of Basic and Applied Science , 694-704.
[46]. Mlay, N. (2010). The Influence of the Language of Instruction on Students' Academic Performance in Secondary Schools: A comparative study of urban and rural . The Influence of the Language of Instruction on Students' Academic Performance in Secondary Schools: A comparative study of urban and rural . Oslo, Norway: University of Oslo.
[47]. Mtsem, A. A. (2011). Effects of diagnostic and contextual instructional strategy on students' interest and achievement in Secondary school Algebra. Effects of diagnostic and contextual instructional strategy on students' interest and achievement in Secondary school Algebra. Makurdi, Benue: Benue State University Makurdi.
[48]. Mugenda. (2011). Social science research: Theory and principles. Nairobi: ARTS Press. Nairobi: ARTS Press.
[49]. Mugenda, O. M., & Mugenda, A. G. (2003). Research methods: Quantitative and qualitative approaches. . Nairobi: Nairobi ARTS Press.
[50]. Muiti, M. J. (2011). HINDRANCES TO EFFECTIVE LEARNING OF PUPILS WITH HEARING IMPAIRMENT IN MERU NORTH DISTRICT-KENYA.
[51]. Mwendwa, M. D. (2015). Challenges facing curriculum implementation of inclusive education in public secondary schools in Mutitu sub-county Kitui couty Kenya.
[52]. Naidoo, S. S. (2008). Science Education for deaf learners Educator Perspectives and Perceptions. Johannesburg: University of the Witwatersrand .
[53]. Nyokabi, E. (2011). Curriculum Factors Influencing Performance of Deaf Students in Mathematics. International Resseearch Journal, 956-964.
[54]. O.Ahiakwo. (2015, May 20). science education and scientific literacy. Retrieved from http/:www.unn.edu.net/DEPT/dept-scienceedu.html
[55]. Ocholla, A. A. (2016). Mathematics Practical Work and Its Influence on Students' Academic Achievement. Journal of Education and Practice , 129-134.
[56]. Oginni, & Owolabi. (2012). Improvisation of Science Equipment in Nigerian Schools . Universal Journal of Education and General Studies (UJEGS) , 44-48.
[57]. Ogunniyi. (2009). Educational Measurement and Evaluation. Hong Kong: Longman.
[58]. Okorodudu, R. I. (2010). Innovation in teaching and learning experiences. Nigeria Council of Psychologists. Asaba: Nigeria Council of Psychologists.
[59]. Okpurukhre, W., & L. E Esiekpe. (2013). Enhancing the teaching of Mathematics using Information and Communication Technology (I.C.T) for optimal quality education in senior secondary schools in Delta State. The Global Journal of Educational Perspectives, 68-76.
[60]. Oladejo, Maruff, & Olosunde. (2011). Instructional Materials and Students' Academic Achievement in Mathematics: Some Policy Implications. European Journal Humaninties and Social Sciences.
[61]. Oliver, P. (2004). Writing Your Thesis. London: Sage Publications.
[62]. Olusola, O. O. (2012). Attitudes of Students towards the Study of Mathematics in College of Education Ikere Ekiti, Ekiti State, Nigeria. American International Journal of Contemporary Research, 86-89.

[63]. Onah, D. U., & Ugwu, E. I. (2010). Factors which predict performance in secondary school Mathematics in Ebonyi north educational zone of Ebonyi State, Nigeria. Advances in Applied Science Research, 255-258.
[64]. Parving, A. (2003). Congenital hearing disability: epidemiology and identification: a comparison between two health authority districts. . Int J Pediatr Otolaryngol., 29-46.
[65]. Probyn, M. (2002). Minding the gaps: an investigation into language policy and practice in four Eastern districts, perspectives in education. 29-46.
[66]. Probyn, M. J. (2001). Teachers' voices: Teachers reflections on learning and teaching through themedium of English as a second language. . International Journal of Bilingual Education and Bilingualism, 249-266.
[67]. Probyn, M. J. (2002). Minding the gaps: an investigation into language policy and practice in four Eastern districts, perspectives in education. Journal of Education, 29-46.
[68]. Rivard, L. P. (2001). The effect of talk and writing on learning science: An exploratory study. Science Education Journal, 566-593.
[69]. Roald, I. (2000). Terminology in the making - Mathematics terminology in Norwegian Sign Language. Retrieved from The Deaf Action Committee for Sign Writing.: http://www.signwriting.org/forums/linguistics/ling032.html
[70]. Roald, I. (2002). Norwegian Deaf Teachers, Reflections on Their Science Education: Implications for Instruction. Journal of Deaf Studies and Deaf Education, 57-73.
[71]. Sikolia, F. (2016). Influence of Strengthening of Mathematics and Science in Secondary Education (SMASSE) Project: Performance andTrend in the Mean Score of Biology in KakamegaNorth Sub County, Kenya. IOSR Journal of Research & Method in Education (IOSR-JRME), 60-77.
[72]. Stål, I. (2017, 4 17). TEACHING SCIENCES IN THE FINNISH COMPULSORY SCHOOL. Retrieved from TEACHING SCIENCES IN THE FINNISH COMPULSORY SCHOOL: http://artofteachingscience.org/countries/Edsystemfinland.pdf
[73]. Workman, & Teri, A. (2016, 6 12). Student Attitudes on Learning. Retrieved from Ehow: http://www.ehow.com/about_4588540_student-attitudes-learning.html