

Addressing Elearning Issues: National Policy Considerations

Hannah A. Tanye, Isaac Asampana, Albert A. Akanferi

Department of Information Technology Studies, University of Professional Studies, Accra, Ghana

Abstract: Enrollment into tertiary education has increased over the years. To be able to deliver effective distance learning, e-learning delivery mode is adopted to supplement the face-to-face meeting with the distance learning students. Subsequently, a number of institutions are practicing e-learning in their teaching and learning activities. Most institutions have implemented learning management system. There is little collaboration between e-learning practicing institutions. The study determine issues that should be considered in policy to enhance quality eLearning, and National Commission for Tertiary Education (NCTE) role in collaborating these institutions. The theoretical perspective is interpretive and the methodology used was qualitative. Data was collected using semi structured interview. The study found that there should be a state body put in place for e-learning accreditation, copyright, confidentiality of information, integrity, and availability and that these issues must all be indicated in policy. Collaboration of e-learning practising institutions must be initiated at the national level.

Keywords: government, learning, e-learning, distance, education, policy, national, innovation, standards, learning management system

I. INTRODUCTION

The government is the main sponsor of education from the primary school to the tertiary level. Referring to the Education for All National Action Plan which span the years 2003 to 2015 which was finalized in August 2003, the projected cost of education using 2002 as the base shows that the total domestically- financed recurrent expenditure on education as a percentage of Gross Domestic Product (GDP) was 5.3% in 2002, 2003, 2004, 2005, 2010 and 5.2% in 2015. During the same year span, the domestically-financed capital spending on education as a percentage of GDP was 0.4% in 2002, 1.0% in 2003, and 0.9% in 2004, 2005, 2010 and 0.9% in 2015 as well. In all government spend about an average 3.9 billion Ghana Cedis on education in the 2002, 2003, 2004, 2010, 2015 (Ghana EFA NAP finalized version, 2003-2015). The government expenditure was GHC 8.33 billion and estimated as GHC 9.26 billion in 2017 and 2018 respectively[1].

At the tertiary education level, the total expenditure is made of 51% from the Government of Ghana and 9% from GET Fund (Ghana Education Trust Fund-Public Trust set up by Act of Parliament in 2000) and 40% from Internally Generated Fund [2].

There have been global cuts in education funding[3]. On the other hand, there has been increasing numbers of

student enrolment throughout the years as indicated in Table 1.1.

The available funding is woefully inadequate as the pressure on infrastructure and resources have increased. Despite the issues of inadequate funding, tertiary institutions are doing their bit by increasing enrolment which brings the Gross Enrolment Ratio (GER) to 12.09% which is way below the National Council for Tertiary Education (NCTE) standard of 25% [4].

To combat the educational challenges, a thirty-member research committee was tasked by the President of Ghana to research on the issues relating to the problems of education in the 21st century. The Committee which was led by Prof. Anamuah Mensah submitted a three hundred and thirty-three (333) paged document in 2011 with their recommendations. One of their recommendations was that Open Universities be created to provide the opportunity for the working population and life-long education report [5]. In 2013, the National Council for Tertiary Education, the Ministry of Education, patterned the Trust Africa, Senegal to organize a dialogue on national policy on tertiary education.

The main aim of the discussion was to build a national multi-stakeholders' platform for transforming of post-secondary education in Ghana; to identify problems that need policy research, and create multi-stakeholder working groups that will work on various topical policy issues with the objective of making inputs into a government white paper on post-secondary education in Ghana Duwiejua and Edigheji [6]). The meeting was attended by two former ministers of education. In all one hundred and fifty (150) participants attended the meeting.

The participants made some observations that there is no detailed national policy on post-secondary schools in Ghana. They also observed that there have been increased participation and distance learning opportunities that have increased tertiary school enrolment. They further stated that because there is no detailed national policy to guide tertiary education, the growth cannot be measured according to laid down policies and strategies that address national needs. This confirms the statement by Matthews [7] that Ghana higher education sector seeks a national policy. This has resulted in graduates whose skills do not meet the national skills requirement.

Table 1.1: Number of Student Enrolment: Ghana EFA NAP finalized version, 2003 - 2015.

Number enrolled	2002	2003	2004	2005	2010	2015
TVI	17934	18624	19314	20003	23452	26901
Proportion Female	13%	15.85%	18.7%	21.55%	35.8%	50.0%
University	40673	42294	43916	45537	53.643	61750
Proportion Female	30.0%	31.54%	33.08%	34.62%	42.32%	50.0%
Polytechnics	18459	19597	20735	21872	27561	33250
Proportion Female	22.0%	24.15%	26.3%	28.45%	39.2%	50.0%

To this end, the Centre for National Distance Learning and Open Schooling (CENDLOS) was established by the Ministry of Education as one of its agencies. CENDLOS had a mandate to “reinforce Open and Distance Learning (ODL) at the post-secondary education level and make it a reality at the pre-tertiary stage” (NCTE Document, 2014). CENDLOS as its mandate demands has created content on a number of subjects run in the junior high schools and the senior high schools which are distributed to these schools. Efforts have been made towards using simulation for laboratory classes for science education in Ghana.

However, at the tertiary level, much has not been done. Most tertiary institutions are finding it difficult and challenging with content creation. Their efforts to implement eLearning have experienced failure in almost half of the projects. This confirms the 49% failure rate on the continent as stated by [8]. The various higher educational institutions have their own policies and strategies for the delivery of eLearning as a measure to complement the face to face mode of teaching. Some institutions have also deployed the use of distance learning to complement the face to face. They have created Distance Learning centres (DL) and make use of eLearning delivery strategies. As a result, the National Information Technology Agency (NITA) has endorsed new ways whereby Universities can use eLearning as a delivery mode for the Distance Learning Centres.

A. Problem Statement

Higher Educational Institutions (HEI) have come to accept the fact that there is a need for collaboration to make eLearning institutionalization effective. Incorporating eLearning approaches in Distance Learning is a strategy being considered by Ghana to enable the nation to enrol qualified candidates and give them the opportunity to tertiary education.

Presently there are five (5) Distance Learning (DL) centres (run by the public universities), thirty-eight (38) Colleges of Education, ten (10) Polytechnics, nine (9) Public Universities and fifty-eight (58) Private Universities[4]. These HEI all together are able to achieve Gross Enrolment Ratio of 12.09%[4]. This is woefully inadequate compared to that of UK-62%, Belgium-71%, China - 27%, and Malaysia - 36%, and Australia- 86% (WB-WDI, 2014). Therefore, the way forward for Ghana is to pursue a large-scale adoption of DL. For large scale DL programme to be successful pedagogy independent of classroom variables must be used to achieve effective learning.

The incorporation of DL by traditional Universities comes with capital and recurrent cost. Therefore, institutions are collaborating with other institutions to implement eLearning. These collaborations are on a lower scale which end up not helping much in terms of economy of scale when it comes to acquiring eLearning tools, database subscription, internet bandwidth, study centres and the like[4]. In this light the National Council for Tertiary Education [9] and the Open University, UK are trying to bring various institutions on board to make eLearning practice as an approach to course delivery thereby making DL effective and efficient.

These efforts to foster collaboration is not yielding much result because some HEI tend to think that their advantage over other institutions would be wiped off once there is collaboration and sharing of resources. Some Universities take advantage of their size to enrol more students as a means of increasing their Internally Generated Funds. Though HEI envisage the advantage they can gain from economy of scale, they also harbour the fear of losing their unique advantages over other competing institutions. National eLearning policy can drive collaboration and subsequently bring about an effective eLearning institutionalization in the HEI.

At present the nation has broad ICT in education policy, Education Strategic Plan 2010-2020 but no specific National eLearning policy. The Nation’s quest to use large DL to admit qualified candidates would have to come with a specific curriculum devoid of classroom variables. The present curricula are suited for face to face mode of teaching. For the nation to achieve its quest, pedagogy is very critical to its success. Hardt and Misié [10] stated that “many online learning systems have experienced problems in the initiation to maintenance.” In the recent e-Learning Africa conference 2013 a survey was conducted and one of their findings was that 49% of respondents experienced failure in the use of ICT tools and technology in the activities of their teaching and learning processes and that government is the most influential body to drive e-learning.

B. Objectives of the Study

1. To determine what aspects of faculty pedagogy change, curricula accreditation and Information security policy be considered in policy to enhance quality eLearning.
2. To assess how NCTE can assist eLearning practicing Institutions to collaborate to enhance quality eLearning?

C. Research Questions

1. Which aspects of faculty pedagogy change, curricula accreditation and Information security policy should be considered in policy to enhance quality eLearning?
2. How should NCTE assist eLearning practicing Institutions to collaborate to enhance quality eLearning?

II. LITERATURE REVIEW

A. Government Led E-learning Projects

There is overwhelming evidence from literature on eLearning initiatives at the Government level and sector levels in New Zealand, Australia, Canada, the United Kingdom, and the United States [11]. In New Zealand they established the e-Collaborative Development fund. The fund improved eLearning systems and was of benefit to participating Institutions. Australia had a framework for content development for eLearning which was very successful[11]. Canada established the province-wide virtual campus and students were allowed to mix, match, and transfer courses between members. The United Kingdom had a dedicated agency the Joint Information Services Committee that helped in developing standards, and research. In the USA the federal government helped in the development of content and strategies[11].

A study by Dondi and Moretti [12] on “eLearning Quality in European Universities” was a project result that was basically used as an input for UNIQUe (European Universities Quality in eLearning) accreditation systems. In Dondi and Moretti [12] report on reviewed projects in Europe, clearly confirm the effect of government led projects to the birthing of the European Foundation of Quality in eLearning and also called for institutional self-assessment.

In China there was a government lead project in relation to eLearning initiative. The Chinese Ministry of Education launched two programmes namely curriculum reform, and the promotion of quality and innovation in eLearning[11]. The whole project was titled “eLearning initiatives in China: Pedagogy, Policy, and Culture.” The project focuses on issues associated with the design and delivery of online courses in China, web-based courseware design, the CTUE (Chinese University Teacher Training in English) programme, a framework for training eLearning tutors.

In Malaysia, Open Distance Education was first started in 1971 [13]. Eleven public universities in Malaysia formed a consortium which collaborated to set up the Open University Malaysia. The government of Malaysia spent Two Hundred (200) billion Malaysian Ringgit on education and training, transport, energy and public utilities, commerce and industry, and defence. Out of this 200 billion Malaysia Ringgit 20.6 % (41.2 billion Malaysian Ringgit) was spent on education and training [13]. The government has urged public tertiary

institutions to promote and conduct more distance learning courses by increasing expenditure on education [13].

Therefore, Malaysia has seen increasing expenditure by the government on education and this has yielded results. In a research by Ahmad, et al. [14] to find out how the increased government spending has impacted education in Malaysia, found out that the changes on the government funding systems brought about positive impact on the approach to strategic planning in the universities and as a result the agency problem of goal conflict and information asymmetry was reduced. They stated that, the results from the focus group participants were of the view that universities objectives must be aligned with the government’s objectives due to financial changes under the implementation of national higher education strategic plan beyond 2020. They concluded that government funding enables the reduction of goal conflict and information asymmetry between the government and the universities and higher educational institutions draw their strategic plans from the government strategy and policies in relation to education.

In a review study by Keil and Brown [15] titled “Distance Education Policy Standards: A Review of Regional and National Accrediting Organizations in the United States”, they reviewed six regional accreditation bodies and two national accreditation bodies for Distance Learning in the United States. The focus of their review comprised institutional context and commitment, curriculum and instruction, faculty and faculty support, student support services, and student identity issues. The purpose was to serve as an input for accreditation bodies. These accreditation bodies are recognized bodies by the US Department of Education. They are:

1. Middle States Commission on Higher Education (MSCHE)
2. New England Association of Schools and Colleges - Commission on Institutions of Higher Education (NEASC-CIHE)
3. North Central Association of Colleges and Schools - The Higher Learning Commission (NCA-HLC)
4. Northwest Commission on Colleges and Universities (NWCCU)
5. Southern Association of Colleges and Schools- Commission on Colleges (SACS-COC)
6. Western Association of Schools and Colleges Accrediting Commission for Community and Junior Colleges (ACCJC-WASC)
7. Accrediting Council for Independent Colleges and Schools (ACICS), 2013, and
8. Accrediting Commission of Career Schools and Colleges (ACCSC)

The various policies reviewed have provisions on how institutions should be committed to offering online programmes. Thus, they instituted national led role on institution commitment which would enforce commitment by law. They also discussed how users’ expectation from

eLearning evolved. From their review they noticed that the expectations of these accreditation bodies also evolved. These policies clearly spelt out the need for coherence in policies, standards approval for online programmes in schools, provision for online students to complete their courses on time, good interactivity of lecturers and students, and the issues of quality in curriculum are also expected to be addressed. The policies clearly spelt out the faculty and student support by the institutions. The study was an all-inclusive evaluation in the Institutions. Though the issue on student support services has been clearly spelt out, most institutions have a gap in this area. They have general online services but there is a lack in the area of student support services.

III. RESEARCH PARADIGM

The research paradigm is constructivism. The ontology is that, there is no single reality or truth and that reality is created by individuals in groups. The epistemology stance is that reality needs to be interpreted. It is used to discover the underlying meaning of events and activities. The theoretical perspective is interpretive and the methodology used is qualitative. The method used in the data collection is semi structured interview.

The qualitative data analysis comprised content analysis, word extraction and the statistical value of occurrence [16], Nenkova and Vanderwende [17], Hong and Nenkova [18], the use of Nvivo, and coding script was used. Propositions and product prototype would be drawn from literature. The analysis of these types of data involves looking out for patterns that are common concepts or themes in/among data items. These patterns are examined critically to find out if there are deviations. A determination of whether these patterns suggest the additional collection of data or not.

Secondly, a line of story emerging from the data is noted and they are determined to find out if it brings out

meaning on the research study question. Finally, the patterns were checked to see if they correspond to other qualitative analysis that has been conducted. The analysis was based on replication logic.

Finally, the data was analysed to determine whether it has helped to answer the issues investigated. This is determined by analysing the data to see if the study questions are answered. If yes, then the question has been answered.

Purposive sampling was used for the qualitative study with lecturers as the population. The study interviewed six respondents [19]. The study had a discussion with two persons for the preliminary study and all responded. Later, five lecturers who are well knowledgeable in national issues related to eLearning policy and four responded to the interview. That makes it six responses out of the seven persons making 85.7% response rate. Each interview lasted 1-2 hours.

A. Instrumentation

Constructs of measurement Faculty Pedagogy Change, Accreditation, Collaboration, and Information Security policy for the qualitative part of this study was adopted from Brownell and Tanner (2012), Adali [20], Elameer and Idrus [21], and El-Khatib, Korba, Xu and Yee (2003) (Refer to Appendix for details).

The questionnaire was made up of five sections and 23 questions in all. Section one was 4 questions of demographic data. Section two was 5 questions on faculty pedagogy change. Section three was 6 questions on accreditation. Section four was 4 questions on collaboration. Section five was 4 questions on information security policy.

IV. DATA ANALYSIS AND FINDING

A. Data Analysis

Table 1.2 The Matrix of Responses

	A. Accreditation	B. Collaboration	C. Faculty Pedagogy Change	D. Information Security
Dr. A	value for money, reputation quality of the curriculum market relevance, actual process important independent body pedagogy management, IT system, IT infrastructure communication Pedagogy Attending a study course National Body Controls	Special Section at the Ministry Champion eLearning Course by state Facilitate Interaction Advisory Board Build Institutional memory Fair Representation	Train Faculty Problem based Current trend Research work Teaching Service to community Reward Compliance Communication Resource persons	Copyright issues Supervisory Role Compliance enforcement Internal Policies Technical persons
Lawyer B.	State run body, reputation	Government Investment Co-ordination Fair representation	Managerial level Course outline Follow already laid principles	Policy Government Guideline
Dr. C.	Separate body Cumbersome Procedure	State lead Co-ordination	Constructive based Training workshops	State supervision Internal Policies

	Critical Communication an IT infrastructure, Andragogy National Body Attending a study course Alumna interview Documentation State run Non-profit	Annual forum Equal playing field Adequate representation	Provision of ipads Reward 30,30,40 Teaching Research Community service Annual reviews Continual Improvement	Ensure appropriate referencing Regulation of System vendors
Prof. D.	Availability Criteria Course content National body Obligatory State run	Proper grounds for collaboration Policy Agreement	Management level Departmental Representatives No general reward Special Reward	Availability eLearning Infrastructure Vendors compliance Policy Court
Dr. E.	important independent body pedagogy management, IT system, State run	Government investment Co-ordination Policy Fair representation	Training faculty Representatives Constructive based Reward Teaching Research Community service	Copyright Email policy Policy Vendor regulation Supervisory Role Internal arrangement
Dr. F	National Body Attending a study course Alumna interview Documentation State run Non-profit	Policy Government investment Agreement Champion by the state Institutional memory	Training Reward Teaching Research Service to Community Problem based	Availability Copyright issues Policy Vendor Regulation State regulated body

A) Faculty Pedagogy Change

In some institutions, coming out with the teaching philosophy involves a series of training of lecturers on problem-based learning. One institution involved the students in a constructivist teaching philosophy. The students are allowed to create their own knowledge, and reconstruct knowledge. Students are allowed to explore, construct, and reconstruct their own ideas on their view. In some institution's management conceive their idea and pass it to the lecturers who make sure that the students understand what the concepts are. However, in such institutions when it is a necessity, there are representatives from the departments in the creation of these philosophies. In the recent past, the institutions based their reward system mostly on research and the smaller percentage on teaching. During the interview the study gathered that this trend is changing. Most of the Universities based their reward system on research, teaching, and community service. There was agreement from a number of lecturers on these reward systems. 50% of the lectures emphasised this reward system. The other 50% said their salaries were paid and out of the 50%, 16.67% emphasized that, salary is not a reward and that it is what you are due for but the other 16.67% think it is motivation enough for your salary to be paid on time. Not all lecturers agreed that they are motivated enough. Brownell and Tanner [22] in their study argued that:

Training alone is insufficient to achieve pedagogical change. He stated that interactive teaching takes more time than traditional teaching. Thus, incentive is needed for lecturers to comply.

From Professor D response "There is training for lecturers but no special reward". From Brownell and Tanner [22] achieving pedagogy change would be difficult when the lecturers are provided with training without incentives.

All 100% agreed there has been requisite training to handle e-courses. In some cases, there are resource persons on campus where lecturers can go for help if they lack in certain skill area to handle the e-courses. Lecturers are encouraged to do video recording of their lecturers. In some cases, on the eLearning platform, there are motivations as well as controls to make sure that lecturers comply. There is the compliance issue and communication issue. Lecturers are to make sure the recordings are uploaded to the eLearning platform according to required standard and also make themselves available to communicate with students online.

B) Accreditation

Half of the interviewees agreed that there should be a separate body for eLearning accreditation. Some were of the view that eLearning is not different from the normal face-face and that 'e' is just a medium and there is no reason to set up a separate body for eLearning accreditation. Most of them agreed that accreditation brings about quality, market value, reputation, and value for money. Their emphasis as to which is more important was different. Some were of the view that it should all be centred on the availability of what the university set out to teach.

In the accreditation processes, some were of the view that the procedure itself should be less cumbersome and both parties must play their role to ensure the duration is shortened.

They were all of the view that the accreditation body should be independent and a state run. The constitution of the body is also very important when it is state run. Most of them also agreed that the communication, IT infrastructure, management structure and the pedagogy should be audited as well. The order in which each of them placed these items was different. Some intimated that most of the distance learning students are mature students so they look at andragogy instead of pedagogy. Dr. C responded that”

“The procedure is very cumbersome, necessary and critical. The duration for accreditation is long. Both players must play their role to shorten the duration”.

16.67% were of the view that there is no need for a separate evaluation for e-course. The rest were of the view that attending a study course, document inspection, and interviews of alumina should be the evaluation method to consider. The order of these items was different. 16.67% said with the interview of the alumina there may be bias since it also depends on the commitment of the student to the programme but on the larger scale may also give information as to whether students had their monies worth and are impacted with the skills and knowledge they sought.

100% agreed the accreditation body should be state run and accreditation should be obligatory. They all agreed that a commercial body would undermine the accreditation procedure.

C) Collaboration

One lecturer said “there should be a section of the Ministry of Education that focuses on eLearning being run by the institutions.” The body should champion this course by having a body that can oversee this, what NCTE (National Council for Tertiary Education) can do is to facilitate an interaction between Universities. Most agreed that there should be proper co-ordination from the state institutions in regard to eLearning practising institutions. The state institution can build a learning memory to help other institutions later with this database.

One was of the view that there is no basis for the collaboration of institutions. There need to be “agreement” on which the institutions can collaborate. Some were of the view that “Government should realize the importance of eLearning and put the necessary investment in that area.” One stated that “There should be annual forum for institutions, equal playing field and best practices.” To avoid bias they agreed there should be a good representation from all the institutions such that no institution would be disadvantaged.

D) Information Security Policy

Information security compliance must come from copyright issues; ensuring universities make available information to students, and recognition of source materials. Universities must play a watch dog in ensuring internal security issues are complied with.

The government should play a supervisory role. Some stated that “National Communication Authority must regulate eLearning system vendors, software, hardware. They should involve National Information Technology Agency”. Some were of the view that Information Security Policy should be on the Universities’ broader document like the University IT policy and that there should not be separate policy for eLearning security issues. 100% were of the view that government should regulate eLearning system vendors to ensure they comply by standards and also deliver and make sure there is availability.

100% were of the view that information breach should be dealt with internally by policy and if it escalates beyond the University it then goes to the law court. Some agreed and were of the view that the state should deploy technical people to make sure that the policy is favourable to all parties before its implementation.

B. Findings

Following is how the responses answered the research questions 1 and 2:

1) *Which aspects of faculty pedagogy change, curricula accreditation and information security policy should be considered in policy to enhance quality eLearning?*

The aspect of Faculty Pedagogy change that should be added to policy should include the building of institutional memory by a National body such as the National Council for Tertiary Education (NCTE) to facilitate institutional learning among universities on best practices. The Curriculum accreditation should involve the audit of the IT infrastructure, the communication channels, attending study courses, spot testing a study course, document inspection for the criteria for accreditation. There should be a separate body for eLearning accreditation and its constitution must be such that it will eliminate bias. For Information security policy the state must include copyright issues, availability of information in the University community and the compliance of supplies to meet standard and availability.

2) *How should NCTE assist eLearning practicing Institutional to collaborate to enhance quality eLearning?*

There should be a section at the Ministry of Education to oversee the activities of eLearning practicing institutions with the help of other state bodies such as the NCA (National Communication Authority), NAB (National Accreditation Board), and NITA (National Information Technology Agency). The state body must have an annual forum for eLearning practicing institutions and ensure the representation for each institution is such that no institution is disadvantaged. Collaboration should be initiated at the national level Elameer and Idrus [21] to ensure that valued resources are not drained [23].

V. CONCLUSION AND RECOMMENDATION

At present the nation has broad ICT in education policy, Education Strategic Plan 2010-2020 but no specific National eLearning policy. The Nation's quest to use large DL to admit qualified candidates would have to come with a specific curriculum devoid of classroom variables. The present curricula are suited for face to face mode of teaching. For the nation to achieve its quest, pedagogy is very critical to its success. Hardt and Misiť [10] stated that "many online learning systems have experienced problems in the initiation to maintenance." In the recent e-Learning Africa conference 2013 a survey was conducted and one of their findings was that 49% of respondents experienced failure in the use of ICT tools and technology in the activities of their teaching and learning processes. Some researchers have come out boldly and stated it is the issue of a theory gap, some say it's a problem of e-pedagogy, others also argued that it lies in the role the institutions play in the implementation of eLearning tools in the Universities. Hardt and Misiť [10] attributed the problem of effective eLearning implementation to alignment of pedagogy, technology, and organizations.

In a presentation by Darkwa [24] on "Strengthening Higher Education Systems in Ghana" he stated that a vision of achieving excellence in online education requires a shared vision among stakeholders. The prevailing situation in the implementation of eLearning is that each institution has its own vision and how they are implementing eLearning. There is no national eLearning policy or curricula design for DL from where the various institutions now draw a suitable design not losing sight of the standards set. From extensive research it has been accepted by far that the factors that hinder eLearning institutionalization are; appropriate strategy, lecturers' attitude, and management support.

Bates [25] was of the view that the government has a significant duty to play in the higher educational institutions quest to use eLearning in the delivery of courses. Thus, there is a need for top-down, bottom-up and collaborative perspective. The importance of national policy to drive eLearning issues has been established by various researchers Hardt and Misiť [10], [16, 23]; Elameer and Idrus [21]; [20]; .

There is no detailed national policy to guide eLearning practice in post-secondary education; the growth cannot be measured according to laid down policies and strategies addressing national needs. This confirms the statement by Matthews [7] that Ghana higher education sector seeks a national policy. This has resulted in graduates whose skills do not meet the national skills requirement

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http://planipolis.iiep.unesco.org/sites/planipolis/files/ressources/ghana_esp_2010_2020_vol2.pdf

Education Strategic Plan – 2010-2020, vol 1

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Education for All –National Action Plan-2003 – 2015

<http://unescoghana.org/wp-content/uploads/2017/08/Ghana-EFA-NAP-Finalised-Version.pdf>

ICT in Education Policy

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