The Role of Harvard University In Affecting Global Educational Reforms That Can Be Implemented in Egypt

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Abstract

The purpose of this analytical study was to explore the role that Harvard University can play to influence global educational reforms in the 21st. century. As a leader in education, Harvard University has provided a number of new educational reform models in the new millennium that can be replicated globally. The new millennium has revealed many challenges that are clear signs of the change that people are aspiring to have, not merely in politics or economics, but more importantly in education. Taking Egypt as an example for investigating the problems of education that many countries face, the current study examined the problems that affect teaching and learning in the 21st century. The researcher collected data from multiple sources including a Likert scale questionnaire, classroom observations, teachers' interviews, students' learning records, and the lived experiences of teachers, students, and parents. The results of data analysis revealed an urgent need for implementing reform to improve education. The recommendations of this study highlight the importance of connecting effective educational reforms to the concept of human and societal development. Educational reform should help educators prepare citizens for the 21st century. Education should facilitate the integration of the population into successful civic systems. Therefore, new educational research-based reform models that can be replicated globally, and guided by the educators' constructive actions can help solve the 21st century problems. The new reform model, guided by Harvard University research, and presented in this study, to be implemented on a large scale in Egypt, is based on a triad approach, incorporating: (a) systematic planning; (b) dynamic reform organizational management strategies; and (c) real-time technology measurement. The triad system is a reform model founded on cognitive theories of learning. The suggested triad reform model can be replicated in various counties based on needs assessment.

Key Words: educational reform, school transformation, triad reform model

Introduction

The 21st century has revealed many conflicts that have pervaded the world, including wars, terrorism, poverty, unemployment, and the inability to accept cultural diversity, all of which have accumulated due to lack of effective education. Educational reform has become inevitable for preparing students to cope with the challenges of the 21st century, and help people achieve better life styles in various countries all over the world. To help schools attain such goals, the researchers at Harvard University have introduced novel research-based models for education reform that are based on large- scale improvements to enhance the quality of education such as 'Leading the Way', 'Education Reform, Accountability, and the Achievement Gap'; 'Data-Driven Teaching', and 'Building New Structures for School Leadership', among others. Since the new models have been successfully implemented in USA, replicating some of these models can help many schools in Asia, Africa, Eastern Europe, and Middle East to improve their education. Education reform in Middle East, for example, is essential for addressing the political and economic problems that have accumulated due to lack of effective education. Taking Egypt as a sample to illustrate how Harvard University research can affect the education reform globally, this study aimed at exploring the avenues through which Harvard research-based reform models can be applied. The experts at the Presidential Specialized Council for Education and Scientific Research in Egypt are currently seeking international partnership and cooperation for improving education in Egypt. In this respect, Lisa Anderson (2014), the president of the American University in Cairo (AUC) stated that the AUC was committed to enhancing collaboration among the research communities in Egypt and USA to help the Egyptian educators solve the problems of education. As such, this research focused on identifying the problems of education in Egypt, and exploring the impact of Harvard University research on implementing new models for educational reform based on empowering teachers, administrators, students, and parents to participate in the process of transforming the Egyptian society.

Study Background

The current research was based on exploring the new educational reform models that Harvard University implemented at various schools to prepare students for the new millennium so as to ascertain their applicability to various schools in other countries such as Egypt. Education reform is required for the preparation of the Egyptian citizens in the 21st century. The complexity of the education problems in Egypt stems from the disparity between the skills needed for jobs and the level of skills attained by the educational system. According to Ginsburg and Megahed (2011), the majority of students have not acquired the skills necessary for global recruitment. The Egyptian educational system has also been criticized for not providing adequate professional development programs for teachers to foster competencies and enhance the application of research-based teaching methodologies. Additionally, the rapid increase of the number of students at schools in Egypt has resulted in the emergence of problems related to large classes including the lack of buildings and resources, the increase of the negative classroom environments, the inadequate application of technology, the inability to accommodate students with disabilities, and the increase of private tutoring, which has become a financial burden on the Egyptian families, and which has created an informal education sector to compensate for the shortcomings of governmental education (Ministry of Higher Education, 2010). Hence, adopting a new vision for effective education that aims at stimulating human potentialities and capabilities is an important step towards reformation.

Problem Statement

Many schools all over the world face serious problems owing to the complexity of the challenges that emerged with the advent of the 21st century. Traditional school systems that are based on rote learning have become an obstacle for preparing students to be successful creative thinkers and problem solvers. As a leader in education, Harvard University has initiated comprehensive research to identify the problems that teachers and learners encounter in the new millennium, and proposed a number of educational reform models that can be implemented in USA as well as abroad to promote global education. Guided by the methodology of Harvard University, many researchers have begun to investigate the problems that hinder the education systems in many parts of the world. Some of the educational systems that need urgent reform include those of Africa. For example, the problems of education in Egypt are so overwhelming that many parents have decided to withdraw their children from schools and teach them at home.

According to UNICEF's statistics (2014), Egypt's population reached almost 86,700,000 people, with an annual growth of 1.6%. However, such human capacity is hindered by the rate of illiteracy, which reached 16,806,657 people. Only 24.9 % hold intermediate education certificates and 9.56% hold graduate and post-graduate certificates. The primary school participation, gross enrolment ratio reached 105.3% for males and 99.2% for females. The secondary school participation, net attendance ratio reached 70.5% for males and 69.5% for females. Taking into account the impact of education on economic, political, and social development, there is an urgent need to apply educational reform to help in the process of development in Egypt. The common complaints among the Egyptians include the ineffective pedagogy that is based on rote learning. Teacher's complaints stem from their having to teach large classes, and from lack of incentives. Students' common complaints focus on humiliation and physical punishment inside the classrooms. Parents express deep concern regarding the increase of violence at schools. Current research (Green, 2014; Ginsburg & Megahed, 2006; Ginsburg et al., 2010) indicated a correlation between quality education and economic advancements in such areas as health, agriculture, heavy and small industries, and technology. Implementing new models of educational reforms that meet the needs of the citizens and the society has become imperative.

Purpose Statement

The current research aimed at exploring the avenues through which Harvard University research can be implemented for providing appropriate solutions to help the schools in Egypt recover. Harvard University, in collaboration with AUC and other Egyptian universities, can provide expertise to help teachers acquire high level professional skills. Applying a new educational reform model, which is supported by the government and the people, can also help in solving the problems that Egypt confronts. Therefore, based on the analysis of Harvard University research, this study focused on implementing the researcher's triad reform model that is based on (a) systematic planning; (b) dynamic reform organizational management strategies; and (c) real-time technology measurement, to improve the educational system at schools. The application of such a model is an effective step towards building a prosperous society where education is connected to human and societal development to realize human potential and empower people to participate in constructive actions for solving the school problems.

Theoretical Framework

The conceptual framework of this analytical research is derived from the cognitive theories of learning. Cognition is a set of mental abilities that help learners process knowledge through comprehension, analysis, synthesis, and evaluation (Blomberg, 2011; Goldstein, 2014; Matlin, 2009; Sollberger, Rankin, & Bruce, 2010; Sternberg, 2011). Furthermore, the triad reform model that the researcher designed in this study stems from the philosophy that the human mind, when positive, creative and interactive, helps in developing healthy, vibrant and prosperous learning communities that contribute to the success of the entire society. Madkour (2011) indicated that brain-based models employ comprehensive approaches that capture the authentic state of learning. Psychologists are concerned with the cognitive process as cognition can modify negative behaviors and attitudes. Enhancing teachers' and students' cognitive abilities is important to increase intrinsic motivation. Cognitive approaches also embrace methods for understanding various socio-cultural settings at schools.

In this respect, Sollberger, Rankin, and Bruce (2010) pointed out that brain regions are associated with multiple social functions; therefore, social cognition provides social stimuli to modify behavioral responses. According to Bruce, an educational reform model that incorporates social cognition can help people identify the interactive neural networks that are responsible for social and emotional functions; thus, guide people to cooperate in achieving a productive change in the schools. Cooke et al. (2013) asserted that people, through teamwork, showed shared cognition. Shared cognition in teamwork occurs when the focus is on the similarity of knowledge structures among the team members. The interactive team cognition theory (ITC) emphasizes the importance of modelling for achieving better performance at schools. Chinn, Buckland, and Samarapungavan (2011) argued that integrating topics related to epistemic cognition could improve performance and achievements.

Osgood-Campbell (2015) emphasized the connection between cognition, neuroscience, and educational theory and practice. Hence, research on Mind, Brain, and Education (MBE) explored this connection through investigating the impact of sensorimotor activity on academic competencies such as comprehension of knowledge, and scientific thinking. Osgood-Campbell asserted that cognition can be used in MBE curricula for two purposes, namely, training practitioners, and using interdisciplinary research to develop education. The bottom line is that to implement an effective educational policy that addresses the needs of the schools and connects education to society's developmental projects, there must be an emphasis on learners' higher-order thinking skills.

Methodology

The researcher employed an analytical mixed approach to explore the problems and the educational models prevailing in the Arab societies, specifically, in Egypt. The mixed method allows a contextual analysis of events, which is an important source of data collection in research design (Creswell, 2007; Lichtman, 2013; Thomas, 2011; Yin, 2014). The multiple data collection of the current study included a Likert scale questionnaire, interviews, field notes, audio and video files, and examinations of records such as school plans, textbooks, teachers' lesson plans, and students' assignments. A second approach for collecting the data depended on a series of classroom observations. The third approach employed a review of the curricula of some schools. Because inductive paradigms deal with real time data, field observation, field notes, and textual data and community perception, (Creswell, 2012; Edmonds & Kennedy, 2012; Flick, 2010), collecting real-time data in such a multiplicity of ways was necessary for a comprehensive understanding of the school problems in Egypt. The population of this research study consisted

of 100 Egyptian participants from governmental and private schools. The participants provided quantitative and qualitative data. A pilot study was conducted to validate and obtain reliable data.

Instrumentation

In addition to the Likert scale questionnaire designed for the current study, a focus group of administrators, teachers, students, and parents participated in providing data on the following research core questions:

Research Questions
1. What are your views as shareholders on the educational system in Egypt?
2. Why does Egypt need a research-based education reform?
3. How useful are schools in preparing students for the 21st century?

Data Analysis Results and Discussion

The quantitative data analysis was based on using the Statistical Package for the Social Sciences (SPSS) software to analyze the questionnaire responses. The research hypothesis stated that if the school implemented the triad reform model, rapid progress in education would be achieved. To validate the hypothesis, the researcher used the one sample *t*-test to explore if there is any statistical significance. The results show that there is a statistical significance at the level of 0.1 as the 2-tailed significant is less than 0.1 and the *t* values of items exceed that of df (99) which is 2.6264. Thus, the null hypothesis is rejected. The number of the participants who responded to the questionnaire questions reached 100 people, including 84.7% from governmental education, and 15.3% from private education. The questionnaire results indicated that 100% of the participants believed that schools in Egypt need effective educational reform to cope with the challenges of the 21st century. The demographic data of the current research revealed the participants' age, level of education, and social status. About 54% of the participants were between the ages of 22 and 25, and 41% of the participants were older than 25. About 40.8% of the responses indicated that the teaching methods used at schools were not effective.

The qualitative data analysis depended on a cyclical process which advanced from general to specific observation. Data analysis involved coding of data, identifying salient structures, and listing the emergent themes. The Nvivo 9 software was used to analyze the text data derived from the interpretation of the participants' experiences. The researcher used text analysis, inferential assessment, and descriptive figures to write the analysis report. The responses to the research core questions showed how urgently schools needed reformation. By comparing the data collected from classroom observations with the perceptual data from the focus groups, the researcher was able to generate a complete picture of the school problems, which included problems with the implementation of the curriculum, lack of teaching staff, inadequate professional development programs, lack of resources, inappropriate physical conditions of schools, large classes, students' negative behaviors, and lack of involvement and communication among schools and the community. Moreover, the data of the classroom observation showed extensive focus on traditional teaching methods which encourage rote learning rather than critical thinking. The data also revealed the need to use creative thinking and problem solving strategies, modify the learning environments, and engage students in authentic assessment processes. Table 1 shows the emergent themes emanating from the participants' perspectives of Egypt's education problems.

Emergent Themes	Number of Responses
Rote Learning	69
Lack of research skills	54
Large classes	89
Courses do not meet society's needs	87
Shortage of teaching experience	85
Non-existence of creativity in the curriculum	90
Lack of cooperation between school and community	69
Inadequate technology resources	57
Absence of motivation	77
Negative learning environment	84
Ineffective student assessment	82
High tuition fees at private schools	53
Inadequacy of people empowerment	63

Table 1. *Emergent Themes of Egypt Education Problems*

As shown in Table1, the emergent themes include lack of creativity (90 of 100 participants), which means that schools need to add new courses to help teachers and students enhance creative thinking skills. Another emergent theme is high tuition fees of private schools (53 of 100 participants) indicating that people in Egypt seek improvement in governmental education. The emergent themes also include: the lack of cooperation among schools and the community (69 of 100 participants); courses do not meet society's needs (87 of 100 participants); lack of teaching experience (85 of 100 participants); learning environment is negative (84 of 100 participants); ineffective student assessment (82 of 100 participants); absence of motivation (77 of 100 participants); rote learning (69 of 100 participants); inadequate technology resources (57 of 100 participants); inadequacy of people empowerment (63 of 100 participants); and lack of research skills (54 of 100 participants). Figure 1 displays the themes statistically.
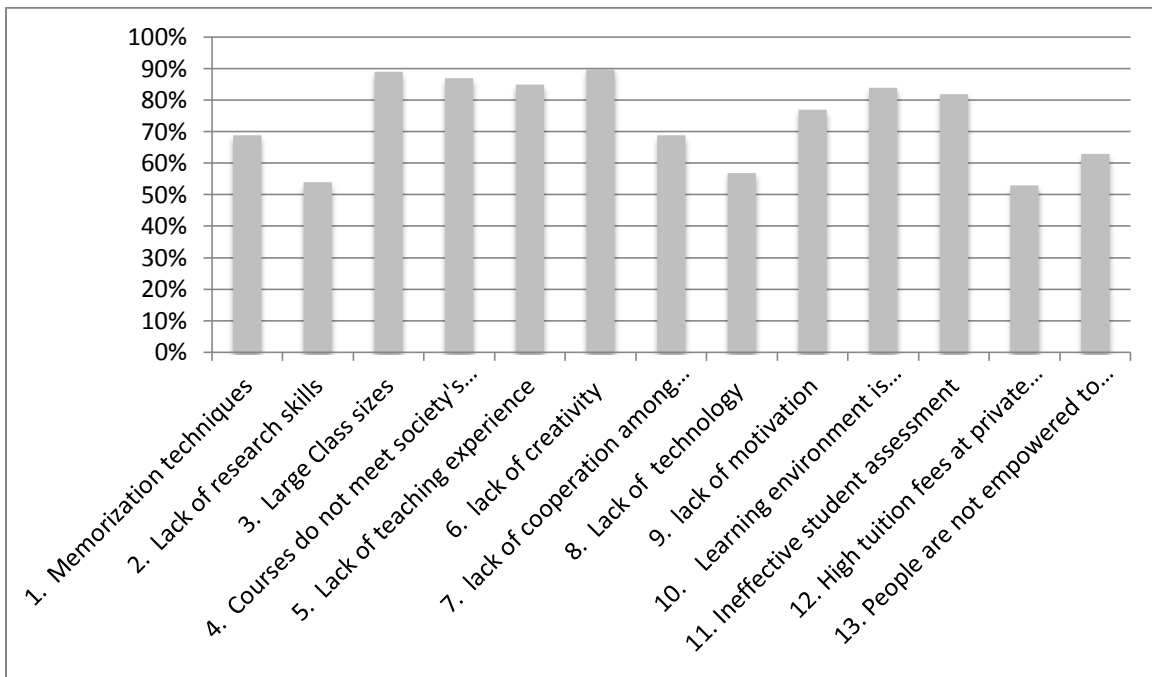
Figure 1. Percentages of participants' perspectives of Egypt education problems

The themes that emerged from analyzing the participants' responses regarding solutions to renovate Egyptian education are shown in Table 2. Table 2 displays 12 themes that emerged as solutions to the problems of Egyptian education, including: applying effective accountability system (94 of 100 participants); using proper professional development programs (93 of 100 participants); improving classroom environment (93 of 100 participants); reducing class sizes (92 of 100 participants); involving teachers in the reform process (82 of 100 participants); fostering creative thinking (87 of 100 participants); using authentic assessment (75 of 100 participants); adding new courses to meet society's needs (74 of 100 participants); promoting student research (69 of 100 participants); enhancing cooperation between school and community (64 of 100 participants); motivating students (64 of 100 participants); and linking education to society (57 of 100 participants). The inferential assessment of the qualitative data indicated that a research-based reform model should be implemented to solve the problems of education in Egypt.

Emergent Themes	Number of Responses
Link education to society	57
Promote student research	69
Renovate schools and reduce class sizes	92
Add new courses to meet society's needs	74
Use proper professional and self- development programs	93
Enhance cooperation between school and community	64
Use effective accountability system	94
Promote creative thinking	87
Improve classroom environment	93
Use authentic assessment	75
Motivate students	64
Involve teachers in the reform process	82

Table 2. *Emergent Themes of Solutions for Egypt Education Problems*

Data analyses of the focus groups indicated the need for improving the entire education system. The primary suggestions that teachers, students, and parents made dealt with the desire to adopt a new vision for education that aligns education to societal development. Teachers indicated that the traditional assessment of students became futile since students were not engaged in the assessment process. Students' concerns were that teachers did not pay attention to learner's individual needs. Parents recommended that by improving the learning activities at schools, the financial burden of the private tutoring would be removed from their lives. Administrators expressed the need for staff development to promote the concept of accountability. Moreover, the current research findings regarding the curriculum review revealed that teachers did not have supportive materials to design daily instruction. Data from video recordings showed that teachers needed professional programs for continuous training to modify classroom teaching strategies.

Literature Review

   The literature review conducted for the current study indicated an alignment with the research data analysis and research findings, in terms of the concepts, the strategies, and the reform that policy makers in Egypt should adopt. Research (Buchanan, 2001; Cuban, 2003; Department of Education, 1998; Goldstein, 2014; Green, 2014; Hanushek, 2013; Proefriedt, 2010; Tough, 2012; Zwaagstra, Clifton, & Long, 2010) concluded that many schools need to address some reform issues, including education visions, pedagogy, education standards, curriculum and instructions evaluation, students' individual needs, gifted students' education, special students' requirements, educational leadership, and society needs. School reform movements also focused on issues regarding parental and community involvement. Providing continuous professional development training is another important element in educational reform since teaching methodology affects students' learning outcomes. The core question that educational reform addresses is: why do schools fail to achieve their goals? Dewey (2012) argued that schools fail when they cannot fulfil the needs of the society. Researchers, policy makers, and educators should re-evaluate the pedagogical practices to enhance students' engagement and to empower teachers (Goldstein, 2014; Green, 2014; O'Connor, 2013; Taylor et al., 2011). Marzano and Pickering (2010), and Marzano and Heflebower (2011) highlighted the important skills that students should acquire to excel in the 21st century, redefining four areas of students' engagement so as to include emotions, interest, perceived importance, and perceptions of self-efficacy. Such areas are neglected in most of the schools in Egypt.

   Models of education reforms vary according to school needs assessment. Standards-based education reform contains the research of Benjamin Bloom, Constance Kamii, Jean Piaget, Jerome Bruner, Lev Vygotsky, Marc Tucker, Maria Montessori, William Spady, among others. The education foundation for reform movement encompasses cconstructivism, active learning, discovery learning, inquiry-based learning, problem-based learning, open-space school, holistic grading, small schools movement, and inclusion, among others. The School Reform Models (Department of Education, 1998) contains 44 reform models. The models include: Accelerated Schools Project (K-8); Coalition of Essential Schools (K-12); Community Learning Centres (PreK-Adult); Core Knowledge (K-8); Direct Instruction (K-6); Expeditionary Learning (K-12); High Schools That Work; League of Professional Schools (K-12); Montessori (PreK-8); Roots and Wings (PreK-6); School Development Program (K-12); Success for All (PreK-6; and Talent Development High School with Career Academies (9-12), among others. These models depended on comprehensive approaches to align the curriculum with the professional development training programs (Department of Education).

   With the coming of the 21st century, many universities have begun to investigate the problems that hinder schools progress. Harvard University, as a leader in education, presented a number of new educational reform models that view education from a different perspective; a perspective which is based on new visions for education goals in the new millennium. Models such as 'Leading the Way', 'Getting to Excellence with Equity', 'The Problems and Promise of Common Core', 'Education Reform, Accountability, and the Achievement Gap'; 'Data-Driven Teaching', and 'Building New Structures for School Leadership', are based on building positive relationships in an authentic environment for constructive actions to solve the 21st century problems, including violence at schools, teachers' low performance, ineffective educational leadership, and inadequate parental involvement. For instance, 'Leading the Way' is a family research project which aims at providing some resources to enhance family engagement (Tamer, Harvard University, 2015). 'Getting to Excellence with Equity' focuses on excellence with

equity rather than closing the achievement gap (Walsh, Harvard University). 'Getting to All Means All' reform model focuses on revealing the correlation between socioeconomic status and educational achievements (Reville, as cited in Harvard University). 'The Problems and Promise of Common Core' are based on supporting academic standards across states (Walsh, as cited in Harvard University). 'Education Reform, Accountability, and the Achievement Gap' constitute a reform model that supports raising school standards to enhance accountability (Mehta, as cited in Harvard University). 'Data-Driven Teaching examined how policy makers can use data analysis programs to measure students' development (Reville as cited in Harvard University). 'Building New Structures for School Leadership' is another model that aims at improving educational leadership to create high quality instruction. Elmore (2004) argued that the historical paradigm, in which instruction is merely the work of the teacher, is an obstacle to achieving students' academic goals. Elmore noted that the tasks of leadership should not be restricted to organizing, budgeting, and managing because leadership is responsible for the overall performance of the school. Educational leaders should focus on improving the instructional practice and performance, rather than imposing complex procedures.

Some of the causes of reform failure include lack of funds, misunderstanding of the educational goals, or lack of cultural relevance. Reforms also fail when the schools do not empower people to take initiatives for change. Regarding the reform cost, Odden (2012) noted that educators can improve student learning with tight budgets if school leaders are talented enough to prepare appropriate financial strategic plans. Hachtmann (2012) asserted that contextual conditions affect education reform. Barrick et al. (2011) highlighted the role of the community in planning and conducting internships. Hammerness et al. (2005) emphasized that effective professional development should lead to adaptive expertise. Research also focused on changing the traditional modes of thinking of teachers and students because the focus in education should be on critical thinking. Wang and Wang (2011) proposed a model-directed approach to teaching and learning higher order thinking. Hung (2008) asserted that using systems modelling can enhance students' systems-thinking skills. Monroe et al. (2015) argued that the introduction of systems thinking can improve students' understanding of systems thinking since systems thinking is an essential cognitive skill that enables individuals to develop understanding of any concepts. Moreover, Kensler et al. (2012) concluded that teachers and administrators lack the skills to use data effectively for continuous school improvement. Kensler et al. suggested that professional development should focus on individual skills, collective dialogue skills, and systems thinking skills. Rodriguez (2013) stated that exploring the teaching brain could help in setting up reform policies that focus on teachers' professional and psychological development. Rodriguez concluded that teachers should recognize themselves as self-created in order to understand how "their context and intentions affect the teacher-student interaction" (p. 77).

Hazzard (2014) highlighted some important key concepts in any effective reform including engagement, ownership, and collaboration to allow teachers to focus on students' growth. Lass and Zandt (2014) pointed out that course materials must be designed to address students' interests and needs. Yamaguchi and Proctor (2009) asserted that a successful training manifests itself when the trainers become able to solve problems and handle challenging situations. Additionally, research (Healy, Wohldmann, Parker & Bourne, 2005; Healy, Wohldmann, Sutton & Bourne, 2006, as cited in Yamaguchi & Proctor, 2009) indicated that the contextual factors during the training period determine how the trainers understand, store, and retrieve the information and apply the acquired skills in new situations. Yan and Xiaotang (2014) asserted that novice teachers showed significant change in classroom practices due to professional

development programs while gaining new experiences, and using reflections on practice. Renee and McAlister (2011) emphasized the principles of contextualization to make connections between classroom learning and student experience. Renee and McAlister also highlighted the role of ccommunity organizations in supporting education reform through linking reform to economic and social development. Aasen, Proitz, and Sandberg (2014) underscored the importance of understanding the complexity and ambiguity of education policy and development. I this respect, Aasen, Proitz, and Sandberg stressed that the more awareness is placed on knowing the political regimes the more successful the strategic plans of the reform become. Hence, successful educational reforms depend on understanding the national policy, and the technical and administrative plans.

Based on the findings in the literature, the conclusion is that educational reform is a powerful tool for improving schools and societies, and that creating a research-based, cohesive, effective, and replicable reform model is feasible. Since the world has become a 'small village', sharing the same complex problems where all the countries affect each other, a research-based global reform model can be replicated effectively. Such a model can be developed with the support of Harvard University as a world leader in education. Providing worldwide educational coaching within a framework of research-based reform models can be a successful program to continually reinforce change and improvement at schools. Harvard University can support global education in the 21st. century through providing financial and research resources, holding seminar and workshops outside Harvard premises, guiding training for educators in remote areas, offering consultations on education reform, and creating a global community of shareholders who seek change.

Recommendations

The first recommendation of the current research is to support educational reform as a global movement led by universities, and educational organizations to face the challenges of the 21st century. The second recommendation involves presenting new visions of education that address the individual needs of students and schools; visions that focus on human development and growth. The third recommendation is to reinforce the act of the integration of learning theories research into school objectives. The fourth recommendation is to enhance fieldwork rather than imposing policies and procedures on schools. Finally, the researcher designed the *Triad Reform Model*, as shown in Figure 2, to be implemented based on schools' needs assessment.

The Triad Reform Model

The Triad Reform Model, as displayed in Figure 2 incorporates three axes: (a) systematic planning; (b) dynamic reform organizational management strategies; and (c) real-time technology measurement. *The Triad Reform Model* is founded on the concept that education is connected to human and societal development to transform people, and their learning environments through creating learning communities. Creating learning communities is important for shifting the organizations from being fragmented, competitive and reactive, to becoming systematic, cooperative and creative (Kofman & Senge, 1993).
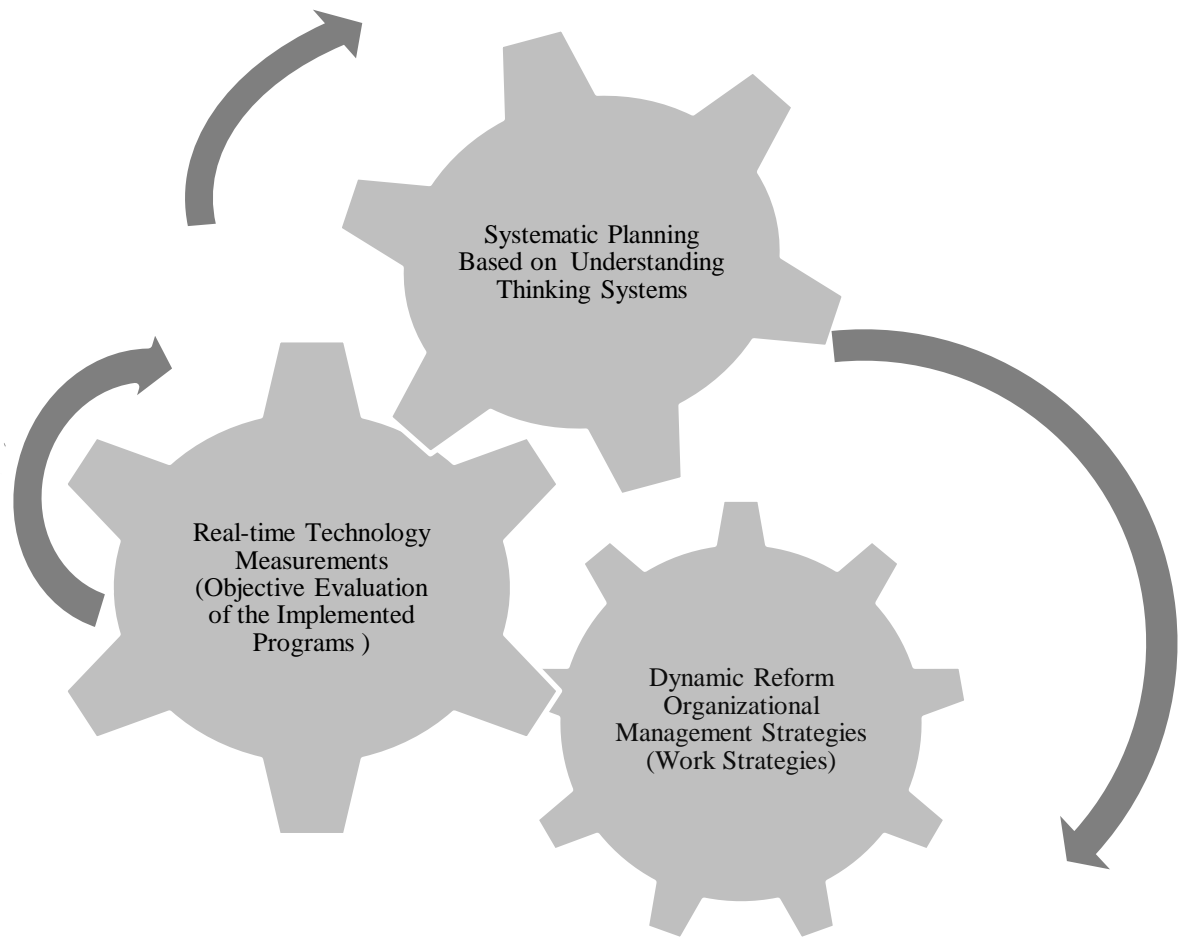
Figure 2. The dynamic triad reform model

As displayed in Figure 2, the *Triad Reform Model* shows how the process of reform begins by helping teachers and educators enhance their thinking skills, then by using working strategies the school can interact with its environment to engage all the people in the society in the reform. The model is based on restructuring the schools from within, and enhancing the role of shareholders in achieving quality education. The main goal of presenting this model is to suggest a number of solutions to solve the problems of Egyptian schools, and improve education services relying on the activation of local investment. Loans, grants, and donations from banks and financial institutions can be provided to help schools buy more space and expand their services. In addition to local investment, international educational aids can be used to support the reform process. A school that implements the *Triad Reform Model* successfully can be recognized as a 'Model School' that can be replicated in other rural or urban areas. Furthermore, the interaction between the education sector and economic projects in the country can play a major role in providing job opportunities for youth in various sectors in the society.

How does the Triad Model work?

The *Triad Reform Model* provides a practical mechanism, i.e. a scientific system, for the reform process to take place. However, due to the variation of the human elements in the education sector, flexibility in addressing the real situation of each school should allow a systematic implementation of the model within a framework of the school's strategic plans. The triad model includes the following components:

A) **Systematic planning**: is the process that sets up the foundation of the programs and activities for restructuring the school. Systematic planning includes appropriate decisions to be made to improve the staff of the school through developing their thinking skills. Systematic planning, in this respect, is connected to systems thinking, which is a process of understanding how human thinking systems influence one another. The concept of "system thinking" was introduced in the General System Theory, and then developed by Peter Senge , who defined 'systems thinking' as the capstone for any successful organizational learning. One of the main goals of education is to help teachers and students think effectively. Thinking is the foundation of schooling. Students must, from early age, acquire critical, analytical, creative and innovative thinking skills. Critical thinking as a dialogue is also important to help teachers and students interact with each other and with the society. Many of the violent problems in the society stem from citizens' inability to conduct constructive dialogues. According to Paul (2013), critical thinking helps learners use intellectual standards. Therefore, helping the school community to enhance thinking skills, and thinking dialogues is necessary for achieving a successful reform.

B) **Dynamic Work Strategies**: are a number of practical strategies for remediation, and monitoring the reform process including training professional development programs for teachers and administrators, incentives for improving teaching performance, incentives for improving administrators' performance, programs for improving students' performance, extracurricular activities to increase parental involvement, and programs for motivating the community's financial support for schools. The dynamic work strategies also include programs to provide infrastructure funds, educational supplies grants, fund raising campaigns, projects for supporting children and students from families with limited incomes, school finance referendum programs, school budget support programs, scholarships for supporting disabled children, and programs for supporting orphan children. The training programs also include workshops, seminars, and scholarship programs for exchanging local and international experience.

C) **Real-Time Measurement Technologies**: refer to field-based measurement of the progress made by the school using technologies for collecting and analyzing data to evaluate the results based on objective and scientific principles. In addition, technology can be used to improve scientific research for schools. Technology can also be used to enhance education through promoting distance learning, virtual classrooms, SMART education, and creating a community of network learners. Additionally, technologies can be used to promote innovation.

As such, the *Triad Reform Model* aims at improving schools from within through building learning communities that empower educational leadership, teachers, students, parents, and society organizations. Since building learning communities requires basic changes in thinking and behavior that reverses static beliefs, there is a need for a systematic, cooperative, and creative school system where commitment is emphasized. *The Triad Reform Model*, thus, focuses on increasing commitment to education reform through a diagnostic and intervention process with the help and the support of public and private organizations. The role of the business community can be reinforced through partnerships with schools to provide financial resources to support the training and the incentive programs. When educational leaders

encourage teachers and students to work together in making important decisions, learning becomes experiential and creative. Experiential-creative learning can provide the society with competent citizens who are capable of creative actions and innovations.

Implications and Conclusion

This analytical study explored Harvard University's role in influencing and supporting global educational reforms to help countries such as Egypt implement an effective reform. Based on the concept that education is connected to human and societal development, the researcher introduced a triad reform model that incorporates: (a) systematic planning; (b) dynamic reform organizational management strategies; and (c) real-time technology measurement, to be implemented in Egypt. As new generations of Egyptians have aspirations towards modernism, the suggested reform can help in establishing learning communities to restructure the school systems, upgrade higher education, and promote an accountability system that allows for an effective reform process. The hope for creating a modern society is actually based on understanding modernism in terms of providing better education in a solid society where citizens are passionate for learning and creativity. Education, thus, should be connected to the concept of development. The areas that require modifications in the Egyptian education system are school policies, curriculum planning, instruction methodologies, students' assessment, and leadership strategies. The curriculum should contain courses in thinking skills, research skills, social and cultural skills, art, fine arts, drama, music, and physical education. In addition, religious education needs to be redesigned with the purpose of helping students develop their critical thinking.

The significance of this research study is that it highlights new definitions of education, emphasizing the real purpose of education at schools, institutions, and universities, through connecting education to human and social development. This research study also provides new avenues for making the necessary reforms from within the schools, where reform programs are implemented by the school staff, instead of imposing general policies that do not address the needs of the schools. Linking education to the development of all aspects of the society motivates educators and education policy makers to address the needs of individual citizens and the needs of the society in the 21st century. Ginsburg and Megahed (2011) confirmed that when educators focus on improving the quality of pre-service teacher education in Egypt, teaching and learning will make progress in the schools. Moreover, Ginsburg et al. (2010) asserted that effective reform requires transformation of the school community, and modifications in the governance. Ginsburg et al. also noted that the community participation declined because the Egyptian Ministry of Education does not encourage the existence of a local decision-making authority. Centralization is another aspect that hinders the educational reform in Egypt. Ginsburg et al. emphasized that decentralization would allow various branch offices to help in the implementation of the reform. Hence, the current research study aimed at exploring appropriate solutions for a successful reform in Egypt.

Moreover, the triad reform model is not inelastic since it depends on the application of the educational theories through fieldwork at schools. The model, therefore, is applicable in any society where data is collected from each school independently to examine the actual problems on- site, and provide appropriate solutions. A number of desired outcomes have been recorded during the process of data analysis of this study including: a) aligning education with society development will achieve the desired dynamic society that can cope with the challenges of the

21st century; b) the quality of education will improve through developing the quality of human beings; c) the rate of illiteracy will decrease; d) schools will apply an accountability system that emphasizes collaborative skills; e) teachers' professionalism will improve through continuous training programs; f) students' motivation will go up through a dynamic and productive school system; g) school leaders will empower the staff to fulfil their tasks; h) the human values of the classrooms will be fostered; i) collaboration among various sectors in the society will be increased; j) social and economic development will grow; career planning will improve through a guiding and supervising system; k) multifarious higher educational institutions will develop as schools will provide new generations of creative lifelong learning students; l) Job opportunities for certified teachers will multiply; m) Job opportunities for skilful citizens will increase.

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