Chapter 2

Review of Related Literature
2. Introduction

The review of related literature has been classified into five categories, namely, Programs for Skill Development, Instructional Framework for 21st Century Learning, Skills introduction and Integration within Curriculum, Teachers’ Perception on Skills for 21st Century and Evaluating School Initiatives, Education in Multi-Cultural Setting. Reviews are followed by emerging research scenario and implications.

2.1. Programme for Skill Development

Bhave (2008) and Chatrah (2008) have examined stress/anxiety in junior college youth and stress among high school students and medical students respectively and developed life skill programme to overcome these, whereas, Kenneth (2008) investigated the effects of life skill training on academic stress of standard tenth students and concluded that school is major contributor to students’ stress. Proper management of stress in adolescent is highly essential for success in adulthood.


Galagali (2008) studied readiness of school management for implementing structured life skill programme and discuss the topics and methodology adopted for life skill training and emphasized upon innovative and creative, participatory and experiential learning methods. Study of Singh (2008) also advocates experimental learning for life skill within the existing subjects.

Morton (1993) studied Grade 12 students participated in a 1-semester cooperative education program and were monitored using the Personal Skills Map by Nelson & Law. Results indicate greater improvement in scores for the scales related to Interpersonal skills than for those in the areas of Career and Life-effectiveness skills. (LKS).

Greenhill (2009) focused on how ongoing dialogue around 21st century knowledge and skills can be appropriately embedded in educator preparation, and to guide the development of resources and services to support educator programs. The objectives:
(1) Develop a blueprint for building the models, tools, resource base, and capacity needed to support this work; (2) Create an infrastructure of leadership and communications that will support the contributions of educator preparation programs and other key stakeholders to this initiative; and (3) Provide faculty training and resource pilot initiatives and partnerships to develop and test 21st century instructional models among higher education institutions nationwide.

**Miller (2009)** conducted a research to study the development of 21st century communication, collaboration, and digital literacy skills of students at the high school level through the use of online social network tools. The importance of this study was based on evidence high school and college students are not graduating with the requisite skills of communication, collaboration, and digital literacy skills yet employers see these skills important to the success of their employees. The challenge addressed through this study was how high schools can integrate social network tools into traditional learning environments to foster the development of these 21st century skills. A qualitative research study was completed through the use of case study. One high school class in a suburban high performing town in Connecticut was selected as the research site and the sample population of eleven student participants engaged in two sets of interviews and learned through the use social network tools for one semester of the school year. The primary social network tools used were Facebook, Diigo, Google Sites, Google Docs, and Twitter. The data collected and analyzed partially supported the transfer of the theory of connectivism at the high school level. The students actively engaged in collaborative learning and research. Key results indicated a heightened engagement in learning, the development of collaborative learning and research skills, and a greater understanding of how to use social network tools for effective public communication. The use of social network tools with high school students was a positive experience that led to an increased awareness of the students as to the benefits social network tools have as a learning tool. The data supported the continued use of social network tools to develop 21st century communication, collaboration, and digital literacy skills. Future research in this area may explore emerging social network tools as well as the long term impact these tools have on the development of lifelong learning skills and quantitative data linked to student learning.
Strom (2010) utilized the California Critical Thinking Skills Test to measure the growth in critical thinking skills that students obtained through a traditional 'seat-bound' versus a 'performance-based' approach to the teaching of Shakespeare at the secondary level. Its purpose was to determine whether there would be a statistically significant difference between the two. Subjects were selected based on their teacher's methodological approach: one who had learned the performance-based approach through the Folger Shakespeare National Endowment for the Humanities' Summer Institute on the teaching of Shakespeare through performance; and the second, a National Board Certified instructor who employed traditional seat-bound methods. Between the two classes there were ninety participants involved in a four-week unit on a particular Shakespeare play (n=90). Four areas of analysis were identified: overall gains in critical thinking after studying Shakespeare, specific differences in critical thinking scores between the control and experimental groups, the impact on the specific critical thinking ability of Inferencing between a performance-based versus seat-bound approaches, and the role gender plays in determining the growth of critical thinking skills between both groups. Control group students were taught Shakespeare in the traditional manner; experimental group students received the treatment of a performance-based approach. All subjects were given a pre and posttest. Students who learn Shakespeare through a performance-based approach had a statistically significant gain in overall critical thinking skills. Boys in particular gained the most from this approach; the specific critical thinking skill of Inferencing, however, did not change. This study provides empirical evidence to the benefit of using a performance-based approach in the teaching of Shakespeare at the secondary level.

Zimmerman (2010) studied project based learning for social science based on the assumption that project based learning (PBL) in 12th grade social studies classrooms contributes to the development of life skills for high school seniors in this advanced and globalized time, this research will investigate student experiences with PBL methods for helping them acquire skills along with a case study of a successful PBL program. The purpose of this study is to help educators discern the value of this instructional strategy. Constructivism refers to the concept that students learn through their experiences and curriculum designed around the Theory of Multiple Intelligences allows them the opportunity to learn through a variety of methods during
A qualitative approach to gathering research, using the interview format was conducted with three teachers who agreed to participate in the study. These teachers had created a unique PBL program in their high school classrooms. The focus of their work was to document the success in teaching life skills to high school students with the goal of preparing them for college, jobs, and life after secondary education. I also gathered information by observing the teachers as they were involved in working actively with students using PBL. The major themes found within the literature highlight the success of the project based learning method, the importance of skill building for life and that fundamental changes are needed for education and instruction. I believe that I can conclude that from my reading, review, research, interviews and observations that the PBL method is successful in teaching and building life skills in high school social studies classrooms, and is able to better prepare students for life after secondary education. Thanks to this instructional method students are able to acquire skills that will help them achieve success in college, the work-force and in life.

Tingen et al. (2011), Classroom Web sites have the potential to support and enhance student learning by targeting 21st century skills, such as, collaboration among teachers, students, parents, and other teachers, media literacy, and interpersonal and self-directional skills, as well as thinking and problem-solving skills. Web 2.0 tools such as blogs, wikis, and podcasts enhance teacher Web sites to prepare students for the future. By making learning a social event, teachers help to keep students engaged with course material. In addition, teachers are supporting 21st century skills through the posting of student work so that classmates may comment on and refine one another's products. In this paper, the authors report on their study of classroom Web sites to determine whether they specifically support 21st century skills. Preliminary findings suggest that classroom Web sites are not meeting the needs of the 21st century students. Additional findings highlight that most classroom teachers are self-taught in terms of Web-site development. Based on their findings, the authors developed recommendations for educators who want to produce a classroom Web site aligned with the standards for learning in the 21st century.

Hughes (2012) revealed many of today's high school students lack one or more of the 7-Cs of 21st century skills: critical thinking and problem solving; creativity and innovation; collaboration, teamwork, and leadership; cross-cultural understanding;
communications and information fluency; computing and information technology fluency; and career and learning self-reliance. Many educational scholars and employers deem these skills necessary for students' success in the 21st century global economy. Further he advocated through empirical evidence that to assist students in using and acquiring these 7 skills, these scholars advocate for authentic, active learning strategies, such as project-based learning (PBL). The purpose of this descriptive case study was to gain insight into the 21st century skills students used during their PBL experience, as framed by Dewey's theory of learning by doing. Eight of the 20 high school seniors who were engaged in PBL while enrolled in a high school agricultural program participated in this study. Data were collected to reveal which 21st century skills these seniors used during their PBL experience. Using open, axial, and selective coding to identify words, phrases, and student behaviors, data were analyzed from participants' electronic portfolios and interview transcripts. The information was sorted into each of the 21st century skills categories. Results suggested that participants did not use the skill of cross-cultural understanding but did engage in the other 6 skills. Findings from this study substantiate claims that PBL is a viable method of instruction when teachers want their students to use and hone many of the 21st century skills. The implications gathered from this study can affect social change as classroom teachers look to implement instructional strategies that bolster their students' use of 21st century skills and prepare students for their future endeavors in the global economy.

Missett (2012) comprised three independently conducted studies and linked into the development of thinking skills deemed necessary for the 21st Century. While educators and policy makers advocate teaching students creative and critical thinking skills to address an increasingly global and complex world, they simultaneously mandate accountability through evidence-based educational practices. The results of these studies add to the literature base relating to the claims of specific programs and curricula purporting to teach 21st Century skills and to the relationship between two of those skills--creative and critical thinking. The first Study was a qualitative investigation of learning outcomes for secondary students who participated in an advanced, online, case-based course in environmental science. Growth in critical thinking outcomes was evident for most students exposed to the research-based curriculum. In the second, the researchers investigated learning outcomes in the areas
of creative problem-solving, creative and critical thinking, and teamwork for middle school students who participated in a creativity enhancement program, Destination ImagiNation. Results indicated that participation supports growth in 21st Century skills for middle school participants. In the third study, the relationships between critical thinking and divergent thinking in middle school students were assessed, and the researcher investigated whether there were differences in these relationships for students who participated in creativity training as compared to students who did not participate. Collectively, this research program illustrates positive development of 21st Century skills following exposure to specific curricula and programs designed to build these competencies.

2.2. Instructional Framework for 21st Century Learning

Geiselhofer (2010) conducted a Delphi study to identify components of a new model for teaching and learning 21st century literacy skills. The purpose of the study was to develop a consensual new literacy instructional model identifying the essential school, classroom, and student factors that support the infusion of new literacy skills. The research question addressed the necessary skills, strategies, and dispositions essential for high achievement with the Internet and other information and communication technologies (ICTs). A modified Delphi design was used to formulate group judgments from 20 experts in the field of new literacy research. Following each of the survey iterations, qualitative data were reviewed, inter-quartile ranges were calculated, and mean scores were used as measures of central tendency to determine the relative degree of value and consensus for each knowledge statement. Four underscoring beliefs about new literacy emerged. New literacy (a) requires new social practices, skills, strategies, and dispositions, (b) are central to full civic, economic, and personal participation in a global economy, (c) are rapidly and ever-changing, and (d) are multiple, multimodal, and multifaceted. The study suggest reform of teacher preparation programs, technology infused professional development, and articulating standards for new literacy skills. The implications for social change from this research include redefining the nature of literacy instruction to include the new literacy skills necessary for global productivity in an interconnected society.

Olsen (2010) developed a model of instructional design that high school teachers use to promote students’ proficiency in 21st century skills. Although research has led to the development of frameworks of skills that high school graduates should develop...
A qualitative methodology using a grounded theory approach was used to gather data and develop the model. Fourteen teachers were recruited from two suburban high schools in Connecticut that were purposefully selected because their district goals or mission statements focused on 21st century skills. The study was conducted in four phases. The first three phases encompassed recursive stages of interviewing study participants (N = 14), exploring and coding the data, and developing interim data summaries. The fourth phase of the study involved the final analysis and integration of data. The model of instructional design for 21st century skills that emerged from the iterative analyses of teachers' stories has as its central category an inquiry-based approach to teaching and learning. Further, their accounts of designing instruction yielded the model components: environment, planning, instructing, and assessing students' proficiency in 21st century skills. The model of instructional design for 21st century skills includes planning and preparation, the classroom environment, instruction, and professional responsibilities. Participants' descriptions of how they designed instruction to promote students' proficiency in 21st century skills also aligned in many ways with Marzano et al.'s (2001) effective teaching strategies because, as with Marzano et al., participants did not explicitly talk about their planning process, and their methods of assessment were embedded within the instructional strategies they described. Finally, the model expands Skowron's (2006) conceptualization of instructional design in that it moves beyond plan, instruct, and assess by adding the dimension environment, which encompasses technological, emotional, physical, and curricular factors important to nurturing high school students' proficiency in 21st century skills.

2.3. Skills Introduction and Integration within Curriculum

Shenoy (2005) studied curriculum of high school and its relevance for developing skills for crisis management with the assumption that present school curriculum is more informative than focusing on preparing students in managing the problems in life. This research had investigated problems that the students are facing by using questionnaire on 2457 students, 152 teachers and 168 parents and also interviewed 93 teachers and 81 parents along with observation. The major themes found within the research highlight that students are facing various crises in personal life, family life, school life, community life and national life and he found wide gap between the curriculums followed and required for developing skills for crisis management. The
investigator had designed model curriculum that cut across Languages, History, Geography, Civics and Economics, Science and Mathematics. Further, he defined crisis management skills, namely, skills to understand the problem, skills to apply knowledge in problematic situations, and skills to act and solve the problem situations.

Patrick (2009) studied Sustainability skill at Virginia Beach City Public Schools (VBCPS), the three pillars of sustainability--environmental, economical and social--are very much on the minds of educators and administrators. It is so much that the school system has selected sustainability as one of its 21-century skills--one that all 68,751 students in the system must learn. This selection sets a new direction and purpose for skill acquisition as part of the VBCPS' new strategic plan, "Compass to 2015." Acknowledging that sustainability is the new workplace skill, the author says the role of career and technical education (CTE) will be to develop new academic approaches to sustainability and continue to explore alternative curriculum paradigms and career pathway applications. The researcher asserts that sustainability skills will help everyone understand and support the transitions toward a green economy.

Sardone & Scherer (2010) conducted a mixed-methods study with 21 undergraduate university students majoring in education to determine their ability to recognize the motivational factors and 21st-century learning skills associated with digital games. Results suggest that students in the study were able to detect the learning skills embedded in games. The majority of participants stated that the element of motivation was important, but motivation alone was not a sufficient reason to influence them to use digital-game-based instruction in their future classrooms. However, peer modeling and the positive responses received from middle/high school students to whom candidates taught games appeared to be factors in teacher candidates’ decision to use digital games in the classroom.

Larson & Miller (2011), Skills students will need for the society in which they work and live shouldn't be thought of as "one more thing to teach", but, rather training integrated across all curricula. This research takes a look at 21st century skills and how these skills directly impact teaching and learning. Classroom teachers need to be familiar with these skills and integrate them throughout the curriculum. 21st century skills need to be taught and integrated across the current curriculum by providing
students with engaging learning opportunities in authentic contexts. The authors present some ways that 21st century skills can be incorporated into the curriculum.

2.4. Teachers’ Perception on Skills for 21st Century and Evaluating School Initiatives

Jacqueline (2007) have examined the dilemma of secondary educators in understanding the "perfect storm" of economic change, global competition, shifting labor markets, and technological advances which has led to increasing demands for new skills and new educational practices to cultivate better-prepared high school graduates. This interpretive case study focused on the story of two high schools dealing with demands for 21st Century education. Data gathering was guided by research questions focused on (1) the perceptions of secondary educators about economic, technical, and cultural shifts and new demands on future citizens, (2) experiences with and attitudes about processes aimed at changing educational practices, and (3) the capacity issues and obstacles encountered in implementing changes. Responses of high school teachers, administrators, and counselors were surprisingly similar in expressing generally positive attitudes toward change despite a sense of powerlessness about mounting demands on secondary educators and frustration with contradictory messages about learning versus performance on standardized tests. Participants also discussed the difficulties in adapting to an ever-changing world, top-down decision-making processes, and a shortage of needed time and other resources. Gareth Morgan's metaphors of organization provided a theoretical framework to analyze the functioning of the district and resulting effects on secondary educators. An important conclusion was that bureaucratic modes of operation become ineffective in unpredictable new environments, and that abandoning bureaucratic characteristics is easier said than done. Yet, to respond to global changes and to provide a 21st Century education, schools should consider shifting functioning toward the learning organization described by experts including Chris Argyris, Donald Schon, Phillip Schlechty, Peter Senge, and Margaret Wheatley. The study's one simple lesson is that all schools, even those who have earned reputations for excellence and innovation, must reduce bureaucratic functioning and place new emphasis on culture, transformation, empowerment, and global awareness to enact real change and to become truly ground-breaking school districts.
Lynch (2007) conducted exploratory study to gain an increased understanding of an independent living skills training program's impact on resilience, social support, and life skills for foster care youth participants. This study used a qualitative case study methodology and involved a purposive sample of 16 ethnically diverse youths and 9 adult staff members of the Texas Department of Family and Protective Services. Youth participants were recruited through one of several state-contracted agencies that provided life skills training to youths in Texas. Data were collected through multiple sources and were analyzed using content analysis and descriptive statistics. Scores on standardized measures of resilience, social support, and life skills, and youths' descriptions of these same constructs were compared. The change in scores on the standardized measure of social support were statistically significant ($p=.006; p<.05$), while total scores on measures of resilience and life skills were not. Although scores were not statistically significant, scores on the measure of resilience were in the "high" range, possibly indicating high levels of internal and external assets, and scores on the standardized measure of life skills indicated that youths showed "mastery" of approximately half of the life skills. Youths' descriptions of social support, resilience, and life skills were consistent with scores on standardized measures. Participants described biological family members as their greatest sources of emotional support and encouragement and their verbal descriptions corresponded with the internal and external assets defined in the standardized measure of resilience. Most participants had difficulty describing and recollecting life skills information such as managing money and locating appropriate housing, which was consistent with scores suggesting they "mastered" only about half of all items on the life skills assessment. Staff participants cited placement changes and lack of transportation as the most frequent occurring reasons a youth stopped attending life skills training. Findings from this study highlighted the strengths of foster care youth and have implications for future use of strengths-based theories and frameworks, and for gender-specific life skills training. Findings also indicate important implications for teaching life skills to youths in foster care and policies related to independent living services.

Thurman (2009) investigated the emphasis that South Dakota English content instructors placed on the teaching of critical thinking skills at the high school junior and senior level and at the college freshmen and sophomore level by examining
instructors' perceptions. A survey was developed to obtain information concerning the 
importance of teaching critical thinking skills, preparation for teaching critical 
thinking skills, and obstacles to teaching critical thinking skills. The study further 
examined the differences in perceptions that existed based on years of teaching 
experience, highest degree earned, level of teaching, and average class size. 
Instructors who participated in the study strongly believed incorporating critical 
thinking skills is important and felt confident in their abilities to teach those skills. As 
a result, South Dakota public high school junior/senior and college 
freshmen/sophomore English content instructors incorporate critical thinking into 
their lessons. Those instructors with teaching experience generally believed they had 
received training in the teaching of critical thinking skills during their teacher 
education programs to a greater extent than those with limited teaching experience, 
and instructors generally had been actively involved in professional development in 
the last two years, increasing their abilities to teach critical thinking skills. However, 
fewer respondents indicated they were provided feedback on their ability to teach 
critical thinking skills as a result of performance evaluations. Instructors varied in 
their beliefs concerning obstacles to teaching critical thinking skills. High school 
junior/senior English instructors believed class size, pressure to improve scores on 
standardized tests, and lack of planning time to be the greatest obstacles, whereas 
college freshmen/sophomore English instructors identified lack of knowledge or 
understanding of critical thinking, class size, and limited professional development 
opportunities in critical thinking as the greatest obstacles.

**Hillman (2012)** examined the programs, practices, and culture of a school that claims 
to be meeting the demands of globalization. A qualitative case study of an elementary 
school was used to extract a comprehensive description of the instructional practice, 
professional life, and perceived impact on the culture of a school that has embraced 
21st century skills. The Partnership for 21st Century Skills framework was used as a 
descriptor of those skills that show promise for preparing today's students for the 
flexible and global demands of the future job market. Findings related to the 
instructional practice included a global focused curriculum, inquiry-based instruction, 
students meeting academic standards, and wide use of technology. Findings related to 
professional life included a clearly articulated vision with leadership and collaboration 
around curricular development. Findings related to perceived impact of 21st century
skills on the school’s culture included student behavior that models that which will be necessary for success in the 21st century, teacher learning and collaboration around curriculum development, and significant parent support aligned with the vision of the school. The composite of these findings suggested five themes that shed light on best practice for implementing 21st century learning at a school: (1) a clearly articulated vision for global learning and 21st century skills, (2) fidelity of vision with school practice and community support, (3) internal capacity for developing curriculum, (4) school culture that is centered on both student and adult learning, (5) a dual focus on core academic achievement and to 21st century skills.

McLachlan (2012) focused on one middle school that showed high academic achievement, as well as boasted a mission statement focused on global skills. The purpose of this study was to identify the programs and practices that promote the acquisition of 21st Century Skills at a school. The research questions for this study included: (1) what are the practices and programs at a school and how are these programs and practices aligned to 21st Century Skills? (2) What is the professional community of the school, and how does this professional community support the programs and practices of the school? (3) What is the perceived impact of 21st Century Skills on the culture and life of the school? The researcher used a qualitative approach to this study, which included interviews, surveys, document review, and observations to provide a full, rich story. Themes emerged during the data collection, which validated the current literature on 21st Century Skills in schools. The International Baccalaureate was a standard 21st Century Curriculum. Alternative assessments were used throughout classes at the school. The Advancement via Individual Determination, AVID, program meshed well with the International Baccalaureate program and focused on higher-order thinking. Data was used consistently and purposefully by instructors and school staff. Additional studies are necessary, however, to uncover how student support and intervention programs assist students in learning 21st Century Skills.

2.5. Education in Multi-Cultural Setting

Colacino (2013) studied Learning 21st century skills in a multicultural setting. The case study examined how culturally diverse students at a Southeast Asia international school were engaged in learning 21st century skills when multiple means of instruction and assessment were provided. Universal Design for Learning framework
was applied to a multicultural setting where skills of communication, collaboration, critical thinking, and creativity were emphasized. Interviews and observations of eleven students representing nine countries were observed in classrooms and then interviewed about their experiences in the observed classes. After analyzing the collected data, findings were categorized into three categories: (1) what engaged culturally diverse students during instruction; (2) what engaged culturally diverse students during assessment; and (3) what engaged culturally diverse students during interactions with their peers. Conclusions from this case study suggest that using multiples means to represent information and assess knowledge and skills, relating content to real-world issues and student interests, and fostering positive interactions among culturally diverse student populations can increase student engagement in acquiring the 21st century skills of communication, collaboration, critically thinking, and creativity.

2.6. Summary of the Related Literature Reviewed for the Present Study


Study of Jacqueline (2007) expressed scope of education in 21st century i.e. education for “Perfect Storm” of economic change, global competition, shifting labor market and technological advancement.

Out of the nine studies on life skills, three studies of Bhave (2008), Chatrah (2008) & Kenneth (2008) were found for coping with stress and an educational programme was developed for the same. Five Studies of Morton (1993), Galagali (2008), Singh (2008), Strom (2010) & Zimmerman (2010) advocated innovative methods for life
skill education wherein Morton (1993) found cooperative education is effective in developing Interpersonal skills compared to career and life effective skills for grade 12 student, Galagali (2008) used experiential and participatory learning for life skill development, Singh (2008) advocates experimental learning for life skill within the existing subjects, Strom (2010) emphasize on performance-based approach over seat-bound approach for critical thinking skills and Zimmerman (2010) found Project based Learning (PBL) as effective Instructional approach for life skill education.

Out of the fourteen studies on 21st century skill nine studies of Miller (2009), Olsen (2010), Sardone & Scherer (2010), Larson & Miller (2011), Tingen et al. (2011), Hillman (2012), Hughes (2012), Misset (2012) and Colacino (2013) found in developing 21st century skills. Miller (2009), Tingen et al. (2011) and Misset (2012) has integrated online social network tool and online course into traditional learning environment to foster 21st century skills. Miller (2009) has used Facebook, Diigo, Google sites, Google Docs and twitter for one semester to enhance 21st century communication, collaboration and digital literacy skills. Tingen et al. (2011) gave importance to classroom websites and web 2.0 tools to enhance students’ learning by targeting 21st century skills, such as, collaboration, media literacy, interpersonal & self-directional skills and thinking & problem solving skills, whereas, Misset (2012) observed enhancement in learning outcomes in students who participated in online courses and further emphasized on accountability, creative problem solving skills, creative and critical thinking skills through evidence-based educational practices. Sardone & Scherer (2010) found video games as a learning approach for developing 21st century skills, such as, Creative Thinking & Innovation, Critical Thinking & Innovation and Communication and Collaboration. Olsen (2010) and Hillman (2012) advocated inquiry-based instructional approach and Hughes (2012) advocated authentic and active learning strategy, such as, Project Based Learning (PBL) to assist and acquiring 7-Cs of 21st century skills: critical thinking and problem solving; creativity and innovation; collaboration, teamwork, and leadership; cross-cultural understanding; communications and information fluency; computing and information &communication technology fluency; and career and learning self-reliance. Larson & Miller (2011) emphasize in engaging students in learning opportunities in authentic contexts. Study of Colacino (2013) suggest that using multiples means to represent information and assess knowledge and skills, relating content to real-world issues and
student interests, and fostering positive interactions among culturally diverse student populations can increase student engagement in acquiring the 21st century skills of communication, collaboration, critically thinking, and creativity.

Studied of Shenoy (2005) and Patrick (2009) have introduced skills that are essential for crises management and for workplace and green economy respectively. Wherein, Shenoy (2005) defined skills, namely, skills to understand the problem, skills to apply knowledge in problematic situations, and skills to act and solve the problem situations under crisis management skills, whereas Patrick (2009) defined skills for three pillars of sustainability i.e. environmental, economical and social.


Four studies of Shenoy (2005), Singh (2008), Sardone & Scherer (2010) and Larson & Miller (2011) have emphasized on integration of skills within the curriculum. Wherein, Singh (2008), Sardone & Scherer (2010) and Larson & Miller (2011) emphasized upon fostering skills within the present curriculum & scholastic subjects, whereas, Shenoy (2005) had designed model curriculum that encompasses skills for crisis management that cut across all the school subjects. Sardone & Scherer (2010) integrated video-games with the curriculum those are potent to develop 21st century skills and Larson & Miller (2011) suggest to engage students in learning opportunities in authentic contexts.

Studies of Patrick (2009), Geiselhofer (2010) and Hillman (2012) identified curriculum components for 21st century learning. Patrick (2009) introduced “Compass to 2015” acknowledging sustainability of environment, economic and society as a curricular component and develop skills for the same, further he asserted career and technical education will be helpful to develop new academic approaches to sustainability and continue to explore alternative curriculum paradigm and career pathway application. Geiselhofer (2010) identified curricular components for ‘New Literacy’ through Delphi Study. He suggested New Literacy is central to full civic, economic and personal participation through multiple, multimodal and multifaceted

Researches of Jacqueline (2007) and Olsen (2010) reflects role of administration in developing 21st century skills. Olsen (2010) used grounded theory approach to develop model instructional design for 21st century skills that includes planning and preparation, the classroom environment, instruction, professional responsibilities and assessing students’ proficiency in 21st century whereas research of Jacqueline (2007) evident of positive attitude of high school teachers, administration and counselor toward change despite sense of powerlessness about mounting demand on the educators and frustration with contradictory message about learning versus performance, further through empirical evidences the researcher expressed threat of adapting ever-changing world and top-down decision-making process of administration to 21st century education. Thurman (2009) also expressed threats to
teaching critical thinking skills. Empirical evidences depict that class size, improving scores on standardized test, lack of planning time, limited professional development opportunities and lack of knowledge of critical thinking to be great obstacles for teaching critical thinking.

Studies of Greenhill (2009), Patrick (2009), Larson & Miller (2011) and Tingen et al. (2011) were found exclusively in area of 21st century skills, which proved to be essential to prepare the students and teachers for future.

From the reviews, it can be concluded that programme to enhance skills were developed and implemented for managing the stress among adolescents, for 21st century skills. Further, curriculum was also designed for the same. The researcher could locate one study that focused on designing curriculum for crises management skill by identifying the crises that adolescents are facing but the study is not reflecting on teaching-strategy to be used.

2.7. Implication of the Related Literature Reviewed for the Present Study

The reviewed literature implies that

- Educational activities can be planned for exploring skills to cope with the challenges within the scholastic subjects and adopting subject matter, such as, environmental science, agriculture, ethnography, literature.
- For exploring the skills, the instructional process can be designed that involves students and provide opportunities to share their knowledge and experiences.
- Project-based approach, evidence-based approach, performance-based approach, research-based approach and inquiry-based approach could be used.
- Websites, online social networking sites, podcast and Web 2.0 tools can also be used for exploring Coping Skills for 21st Century.
- Development of skills demands flexible classroom setting.