

Article

Shaping Career Development Through College Readiness at the High School Level

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Abstract: Career and College Readiness (CCR) generates higher levels of persistence, grit, motivation, and competencies in performing work- or school-related tasks among learners during post-secondary life. One primary limitation defining the present scholarship on CCR is the authentic analysis of the on the ground or field practices high schools perform to increase learners' CCR competencies. The inadequate research on actual CCR practices in high schools motivated this study. To learn more about how high schools prepare students for post-secondary life, 16 principals from high schools provided detailed narratives on CCR practices in their institutions. Principals completed interviews of one to two hours using Microsoft Teams, supplying the researcher with specific information and examples of how their institutions equip students for future careers and higher education. Manual qualitative thematic analysis of the entire transcript guided the organization and interpretation of the findings, allowing the presentation of meaningful themes supported by a plethora of illustrations. Six themes representing 18 distinct CCR practices emerged, and the themes were rigorous curriculum, content knowledge, key academic behaviors, key cognitive strategies, multiculturalism, and citizenship development. Results partially supported the pervasive CCR model based on Conley's readiness index. Increasingly, diversity and citizenship learning have defined high schools' CCR work in preparing learners to become effective local and global citizens. The current investigation paves the way for future observational and field research uncovering whether schools truly prepare students or not, and such preparation varies across community, country, and institutional characteristics.

Keywords: career and college readiness; urban high schools; multiculturalism; citizenship development; thematic analysis



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1. Introduction

CCR is high school students' ability to pass college entry-level courses or training program modules without remedial work or excessive assistance [1]. CCR improves post-secondary enrolment rates, degree completion metrics, and learners' persistence throughout the higher education experience [2–4]. Similarly, students who are career ready move faster in their programs, acquiring the technical and soft skills necessary for their success after completing their vocational training programs at a higher rate compared to students with low CCR levels [3,4]. CCR provides learners with the needed critical thinking, problem solving, and research skills to perform challenging tasks throughout their lifelong learning episodes [4,5].

The primary problem in this research is the dearth of systematic investigations concerning CCR practices in high schools. The limited fragmented literature on CCR among high school students notes several deficiencies leading to lower chances of post-secondary success [6–8]. In the 2022 Program of International Students Assessment (PISA), the six participating Arab countries (Jordan, the Palestinian West Bank, Morocco, Qatar, the United Arab Emirates, and Saudi Arabia) scored much below the OECD or global averages in mathematics, reading, and science [9]. By the same token, Arab high school students scored far below the global average on the Test of English as a Foreign Language in 2016. For instance, Saudi Arabia, Qatar, and the United Arab Emirates all scored three to ten points

below the overall mean scores on the reading, listening, speaking, and writing components of the tests [10].

A secondary problem for this analysis is the insufficient examination of how high schools prepare students for CCR. The literature noted that course remedial rates and class failing percentages among newly admitted college students across the Arab World are high [2,7,8]. Little is known on how high schools engage students in their day-to-day learning concerning the development of desired competencies for achieving high levels of CCR. There is unavailability of information and data on what high schools perform to prepare students for post-secondary life in the Arab World.

The purpose of this research is to investigate the contemporary CCR practices high schools perform in the Arab World by focusing on a single case study from Saudi Arabia. Further, the research aims to validate whether existing CCR practices in Arab high schools correspond to the popular celebrated competencies and CCR frameworks in the United States and the West, such as Conley's [11] readiness paradigm. The research questions motivating the present research were:

RQ₁: How do Saudi high schools prepare students for college or careers?

RQ₂: How does Saudi high school preparation of students vary across different conditions like locality (urban versus rural) and type (public versus private)?

Using in-depth interviews with 16 principals of urban and rural high schools from Tabuk, Saudi Arabia, this research relied on qualitative data to construct an account of CCR present in Saudi high schools. Participating principals in this research reported 18 distinct practices grouped into six independent themes. The themes were: (a) rigorous curriculum/content knowledge, (b) academic and learning behaviors, (c) scientific inquiry/cognitive strategies, (d) citizenship development, (e) post-secondary education preparation, (f) diversity, equity, inclusion, accessibility, and belonging. A large proportion of CCR high school preparatory practices concerned college success rather than career preparation. Similarly, preparing students in content knowledge overshadowed other areas of CCR practices. More importantly, an increasing emphasis on multiculturalism and citizenship appears to define high schools' CCR activities.

The present research has several contributions. First, the six themes reported partial support for popular CCR models in the United States and OECD countries like Conley's four-dimensional framework. In this research, Conley's four pillars, content knowledge, key cognitive strategies, key academic behaviors, and key college contextual knowledge, were all found to be dominant themes in Arabic-speaking schools' CCR endeavors. Nevertheless, two additional themes were also reported by principals and are not part of many CCR frameworks. The two themes were multiculturalism and citizenship development. Such a finding may lead to the conclusion that CCR is affected by the cultural values of local institutions and people.

More importantly, diversity, equity, and inclusion appeared to be part of a global CCR movement and not only a purview of American educational policy. Equally important is the fact that citizenship development plays an important role in debates of public education and how Arabic educational systems emphasize the Islamic character of the informed educated citizen. Several principals noted the importance of inculcating Islamic values in adolescents to prepare them for coping with life's struggles and tumultuous moments, a characteristic missing from public education in the West.

The first section of the paper introduces readers to the conceptualization of CCR. Then, an overview of CCR empirical research in Arabic-speaking countries presents the limited number of studies in the area and provides a succinct demonstration of the dearth of CCR endeavors in the region. Subsequently, the qualitative interview research design section supplies readers with information on participants and the thematic analysis data processing strategy. Results showcase the various themes along with their codes with specific illustrations from the interviews. Finally, a discussion section outlining the practical implications, theoretical implications, future research directions, and limitations of the research concludes the study.

2. Literature Review

CCR concerns the role of public education in shaping individuals' social and economic functions and competencies to lead dignified lives [2,7,12,13]. On the one hand, liberal education advocates claim that CCR must promote the holistic grounding of students, preparing them to become productive, informed, and proactive citizens [12,14]. On the other hand, a few scholars and educators believe that CCR needs to focus on the specific workplace skills schools must emphasize prior to students graduating into the post-secondary school world [4,7,15,16]. Such a debate on the role of education in public life is deeply rooted in the philosophies and foundations of education systems [12,14,16,17]. More recently, policymakers have realized the equal importance of liberal education and vocational skills and therefore passed numerous legislations in their respective nations combining CCR as a single set of knowledge, skills, and abilities secondary schools need to prepare learners in to succeed in post-secondary transitions [8,14].

2.1. Conceptualizing Career and College Readiness

The conventional view of CCR defines the construct as the ability of learners to qualify and pass college entry-level credit-bearing courses or similar modules of career training programs without taking remedial or developmental training [12,14,18]. Researchers have differed with respect to the fundamental understanding of how to become ready for college or careers [19,20]. For many, college readiness refers to being academically apt for college measured in test scores, grades, and averages [15,16]. Simultaneously, career readiness represents preparation in a set of vocational work-related skills like problem solving, creativity, and autonomous responsibility [12,14,16].

One of the most popular CCR frameworks is Conley's four-dimensional model affecting American federal and state CCR curricula and instruction [21–23]. Conley [1] suggested that CCR represents the preparation of students in four key areas: cognitive strategies, content knowledge, academic/learning skills, and contextual/transition knowledge, as well as skills. Cognitive strategies refer to students' mastery of basic research skills, evidence interpretation, logical reasoning, communication, and precision/accuracy, which all reflect the critical thinking and problem-solving components of readiness [12,23,24]. Key academic skills correspond to students' readiness in goal setting, self-monitoring, self-awareness, persistence, and motivation [25,26]. Additionally, academic skills constitute students' preparation in handling challenging tasks and expending serious effort in completing tasks [22,27].

Content knowledge refers to students' competence in fundamental subjects including mathematics, English, programming, languages, arts, and social studies [21,28]. Finally, contextual or transitional knowledge and skills represent students' ability to apply for college, navigate the transitioning process, read plans of work or admissions requirements, and understand financial aid and student services' policies [29,30]. Many models and frameworks of CCR resemble Conley's conceptual framework. The College and Career Readiness and Success Center (CCRSC) concluded that most American states' definitions of CCR include four of six common themes [14]. These included "(a) academic knowledge; (b) critical thinking and/or problem solving; (c) social and emotional learning, collaboration, and/or communication; (d) grit/resilience/perseverance; (e) citizenship and/or community involvement; and (f) additional activities (e.g., lifelong learning, technology, interfacing with diverse cultures, and worldviews)" [31].

One of the strongest criticisms of the broad understanding of CCR definitions is the lack of attention to necessary dispositions ensuring programmatic success (Martinez et al., 2017). For instance, Conley's [11] definition of college readiness as the ability to pass college entry-level courses using the necessary cognitive, academic, content, and contextual knowledge which fails to emphasize attributes like confidence [32]. Dispositions refer to the collection of beliefs or attitudes students must have to succeed in college or post-secondary careers [32]. Self-efficacy, resourcefulness, skepticism, and reflection are some examples that are not salient in CCR models such as the ones Conley used in his studies [11]. CCR models

need to emphasize twenty-first century attitudes and skills like information, technology, diversity, statistical, and global literacies [15,33]. Furthermore, current conceptualizations of CCR are largely reliant on American public education and Western understandings of CCR. Recent evidence notes the importance of religion in establishing a ready learner for the post-secondary world especially in the Middle East and North Africa.

To reflect the importance of attitudes, dispositions, aspirations, and motivation for career and college readiness, Martinez et al. [32] proposed The Preparing for Post-High School Education: Motivated, Informed, and Ready (PPHSE: MIR) curriculum. This program consists of five weeks' training covering eight sessions delivered by school counselors to high school students with a focus on ninth graders in the United States. The topics of the sessions are "(a) introductions, (b) know your setting and style, (c) know you are SMART (specific, measurable, attainable, results-based, and time bound), (d) read between the lines, (e) explore careers that lead to majors, (f) holistic review, (g) pathways to college, and (h) you said how much (to pay for post-secondary education)?" [32]. Throughout the delivery of the course, counselors engage learners in engaging, interactive, and collaborative exercises while providing comprehensive reviews of each theme. The program concentrates on elevating students' self-efficacy, confidence, aspirations, and motivation for career and college options after graduation. While such programs increase emphasis on other competencies besides Conley's four key dimensions, they also suffer from cultural insensitivities [34].

Many CCR models emphasize the academic aspects more than the career readiness portfolio because their development reflects the assumption that most high school graduates possess college access and affordability [23,35,36]. The academic perspective of CCR concentrates on the role of persistence, degree completion, time for graduation, college placement rates, remedial course exemptions, and class/degree grades [24,37]. Persistence represents the successive completion of a sequence of courses in a program [38,39]. Degree completion represents either the rates at which a group of students finish a program, or the time taken to complete a program [39,40]. Grades refer to either specific courses' final grades or grade point averages for entire degree or training programs [41]. All such measures represent the common metrics states and education authorities utilize when assessing CCR programs [35,36,38].

The purely academic perspective on CCR leaves out soft skills, cognitive abilities, and academic behaviors necessary for post-secondary success [42,43]. Evidence demonstrates that many students could score highly on standardized tests and attain desirable grades yet drop out of college because of challenging life circumstances or deficiencies in other non-academic areas [39,41,43]. Therefore, CCR advocates have called for the development of more comprehensive measurement frameworks.

More comprehensive measures of CCR assess students' mastery of key academic, cognitive, content, and contextual knowledge, skills, and abilities [44,45]. The Conley Readiness Index (CRI) is based on the four keys framework extending focus from content knowledge and test scores to cover soft skills, critical thinking, problem solving, and metacognitive aptitude [11,18]. Figure 1 summarizes the knowledge, skills, and abilities measured by the CRI. Many colleges and universities today utilize the CRI to measure the readiness of their students for college [46]. Similar assessments to the CRI have appeared across the United States and other countries to evaluate readiness for careers or college [45,46]. The uniform common denominator of such tools is their focus on academic behaviors, cognitive strategies, and contextual knowledge such as transitioning and new programs' navigation [44]. The CRI proves to be one of the most popular metrics as it was adopted by Pearson and sold to many high schools, colleges, and universities across the globe.

Think	Know	Act	Go
(A) Key Cognitive Strategies	(B) Key Content Knowledge	(C) Key Learning Skills & Techniques	(D) Key Transition Knowledge & Skills
<p>(A.1) Problem Formulation</p> <ul style="list-style-type: none"> • Hypothesize • Strategize 	<p>(B.1) Structure of Knowledge</p> <ul style="list-style-type: none"> • Key Terms and Terminology • Factual Information • Linking Ideas • Organizing Concepts 	<p>(C.1) Ownership of Learning</p> <ul style="list-style-type: none"> • Goal-setting • Persistence • Self-awareness • Motivation • Help-seeking • Progress Monitoring • Self-efficacy 	<p>(D.1) Contextual</p> <ul style="list-style-type: none"> • Aspirations • Norms/Culture
<p>(A.2) Research</p> <ul style="list-style-type: none"> • Identify • Collect 	<p>(B.2) Attitudes towards Learning Concepts</p> <ul style="list-style-type: none"> • Challenge level • Value • Attribution • Effort 	<p>(C.2) Learning Techniques</p> <ul style="list-style-type: none"> • Time Management • Test Taking Skills • Note Taking Skills • Memorization/Recall • Strategic Reading • Collaborative Learning • Technology 	<p>(D.2) Procedural</p> <ul style="list-style-type: none"> • Institution Choice • Admission Process
<p>(A.3) Communication</p> <ul style="list-style-type: none"> • Organize • Construct 	<p>(B.3) Technical Knowledge & Skills</p> <ul style="list-style-type: none"> • Specific College and Career Readiness Standards 		<p>(D.3) Financial</p> <ul style="list-style-type: none"> • Tuition • Financial Aid <p>(D.4) Cultural</p> <ul style="list-style-type: none"> • Post-secondary Norms <p>(D.5) Personal</p> <ul style="list-style-type: none"> • Self-advocacy in an Institutional Context

Figure 1. Illustration of Four Keys and Their Attributes in the Conley Readiness Index [1] (p. 3).

2.2. Career and College Readiness in the Arab World

Evidence from the Arab World notes the deficiency in career and college preparedness across the board [47–49]. Albalawi [34] examined Tabuk high schools’ practices for preparing students for college. She noted that schools fail to prioritize CCR compared to other pressing needs facing educators in Saudi Arabia [34]. Further, her study observed that much of the preparation in schools concentrates on training students for standardized tests like the General Aptitude Test, the equivalent to the SAT in the United States. El-Moussa et al. [50] observed that GAT scores and high school GPAs have little explanatory power in predicting college success for Saudi undergraduate students. Further, past research demonstrated schools’ limited engagement in active CCR across the Kingdom of Saudi Arabia and other countries in the Arab World [36,51].

Past empirical investigations documented the low mathematical, statistical, and information literacy rates among high school graduates across the Middle East and North Africa. Khoshaim [51] noted that Saudi universities suffer from high remedial mathematics rates because students consistently fail basic college entry-level mathematics courses. Albalawi [34] observed that high school principals failed to emphasize the roles of information and statistical literacies in preparing students for college courses requiring rudimentary knowledge in descriptive and inferential statistics. Al-Husain and Hammo [52] suggested that college students lack fundamental computer science and programming skills, negatively impacting their graduation likelihood and timely degree completion. By the same

token, Rajab [53] noted a high dropout rate among computer science majors at Najran University in Saudi Arabia caused by a lack of technical ability, literacy, and adaptability.

A disproportionate focus on preparing students for college tests and high stakes admissions testing has defined the bulk of CCR practices in the Arab World. Mokdad (2020) noted that Emirati high schools emphasize the role of testing in helping their students attain admissions in English-speaking countries. Similarly, Albalawi [34] indicated that the cutting-edge college readiness programs offered by small well-funded and organized programs in Saudi Arabia aim to prepare participants for attaining admissions at top ranked higher education institutions around the world. Therefore, schools concentrate on preparing students for the SAT, as well as other relevant tests, thereby ignoring the multidimensional readiness frameworks highlighted by Conley, as well as others.

One of the most important barriers to achieving CCR benchmarks for Arab high school students highlighted by past researchers is the limited resources afforded to school and career counselors [7,50,54]. There is a shortage of counselors in the region [7,55]. Additionally, the training programs for counselors suffer from outdated curricula, instruction, and frameworks [54,56,57]. Accountability and transparency in the school and career counseling professions are meager, especially in developing countries [56,58–60]. The need for retraining current counselors is noted across many secondary education systems in the region [50,57]. The time spent with high school students by counselors is limited and, more importantly, insufficient in providing students the academic and non-academic skills necessary for career or college success.

3. Research Design

We used qualitative methods for this study. The data used in this study originated in an exploratory qualitative interview-based project on College and College Readiness (CCR) in Saudi high schools. The exploratory nature of research stems from the dearth of information on CCR in the Middle East [7,60,61]. Exploratory research on CCR possesses several advantages like the provision of detailed information on the measurement, manifestations, and on the ground practices at the high school level. Additionally, exploratory study allows the researcher to identify the variance in perceptions, practices, and underlying motivations for CCR within schools and participating principals.

In-depth interviews as well as qualitative thematic analysis structured the data collection, processing, and interpretation for the present investigation. Qualitative data collection permits the researcher to build trust, rapport, and genuine relationships with participants who are likely to provide detailed accurate accounts of the events, gatherings, workshops, and lectures pertinent to CCR. Furthermore, qualitative methods supply researchers with the necessary flexibility of asking questions and probing details on the shared CCR practices.

3.1. Participants

Sixteen high school principals provided the data used in this research. The choice of principals as the main subjects in the research stems from their comprehensive knowledge of their schools' operations. Principals appear to be more aware, knowledgeable, and informed about the variety of CCR practices than teachers, vice principals, or district office stakeholders. Principals also appear to have assumed several positions within their schools prior to their leadership roles, providing them with extensive information on the variety of CCR practices. Therefore, principals served as the main subjects for this research.

Purposive sampling provided the strategy for selecting principals to partake in the research. The population of high school principals is diverse, and therefore the characteristics of participants need to reflect the basic elements of variation. Therefore, principals in both urban and rural settings were selected to partake in the research. Additionally, male and female principals who lead small, medium, and large schools located within the city, as well as remote neighborhoods, were recruited. The regional administrative office of

Tabuk in northern Saudi Arabia helped the researcher to reach out to participants. Table 1 provides the frequency of each category underlying participants' characteristics selection.

Table 1. Frequency of Participants According to Each Category.

Variables	Frequency
Gender	
• Male	8
• Female	8
School Setting	
• Urban	8
• Rural	8
School Enrolment	
• Less than 250 students	8
• 250 or more students	8
Type	
• Public	8
• Private	8

The inclusion of sixteen principals was not a random choice. Sixteen participants satisfied the criterion of saturation in qualitative research [62,63]. Saturation is the adequacy of responses in representing the plethora of viewpoints concerning a phenomenon. In this research, CCR practices constituted the phenomenon under investigation, and sixteen informed participants were thought to supply the researcher with a sufficiently complete account on contemporary college readiness practices at the high school level in the Middle East.

3.2. Data Collection

The researcher used semi-structured interviews to collect information from participating principals. This type of interview allows researchers to concentrate on a specific set of areas while affording the opportunity to probe more details to paint more complete pictures about the phenomenon of concern like CCR practices. Semi-structured interviews permit participants to elaborate on specific points while sticking to a general schedule for the interview.

The interviews featured three separate parts. First, the introductory phase of the interview asked principals to talk about their own background, experience, and leadership roles. The purpose of the introductory section of the interview was to establish rapport, trust, and prepare the principal for further questions on college readiness. The second part of the interview covered principals' perceptions concerning their schools' endeavors in preparing students to be creative, critical thinkers, and problem solvers. Further, the middle portion of the interview focused on principals' views of their schools' activities geared toward preparing students in the areas of time management, teamwork, and self-monitoring. Questions involved principals' descriptions of their schools' work in preparing students in the realms of academic writing, critical reasoning, and basic research skills. Finally, the third part of the interview featured concluding remarks offered by principals on their outlook toward CCR. Most importantly, the last portion of the interviews focused on the barriers facing schools and students in fostering effective college readiness.

All interviews lasted between 60 and 90 min. The primary language for the interviews was Arabic. The researcher used Microsoft Teams as the primary tool for data collection. Principals selected the timing of the interview and their preferred place, adding more confidentiality to the setting. All principals were informed about the purpose of the study and signed informed consent forms prior to the commencement of the interviews. The transcriptions of the interviews were translated into English by a certified translation office

in Saudi Arabia and validated by a panel of two researchers who are fluent in Arabic and English.

3.3. Data Analysis

The researcher followed a thematic analysis to analyze the interview data for this investigation. Thematic analysis follows either a deductive or an inductive approach. In this analysis, an inductive strategy constitutes the guiding analytical framework [64,65]. The researcher did not construct a pre-prepared list of themes and fit the data into the already decided upon themes like what happens in deductive qualitative research. On the contrary, the data determined the themes describing principals' CCR practices.

Thematic analysis begins with building familiarity with the data [66]. In this research, the author read the interview transcripts several times to establish rapport with the textual information. Further, the researcher read each interview transcript separately in both its original Arabic form and the English translation. Once familiarity is built, the second step in the thematic analysis involves the generation of the initial list of codes.

A code is a basic element of a theme. Simply put, a code is an idea presented in a single or set of sentences within the interview transcript [67]. Therefore, the second step involved classifying the text into ideas. In this process, each paragraph of the interview transcript was represented with a code, idea, describing the principal's main focus in the paragraph. The result of the second step in the thematic analysis was a general initial list of codes. To verify the codes extracted, the researcher repeated the step two additional times. Once a set of codes converged, the researcher moved to the third step, which is the generation of themes.

In the third step of the thematic analysis, each set of related ideas and codes are grouped together, forming a theme [68]. The researcher classified the codes into their corresponding themes. This process was repeated three times on separate occasions. Once the results of the iterations converged, the initial list of themes was specified. The fourth and fifth steps of the thematic analysis are related. They involve the refinement of the initial list of themes generated in the third step and assigning labels, as well as definitions, to each of the themes identified. Once the list of the set of final themes was prepared after multiple reviews, the researcher accurately provided definitions for the themes based on the codes. Finally, the researcher wrote the results of the thematic analysis based on the refined list of themes constituting the final sixth step of the inductive thematic analysis.

3.4. Findings

Table 2 presents the CCR themes and practices Saudi Arabia Tabuk high schools perform to prepare students for college and careers. Six themes define how high schools equip learners to be college and career ready in Saudi Arabia. These are rigorous curriculum/content knowledge, academic and learning behaviors, scientific inquiry/cognitive strategies, citizenship development, post-secondary education preparation, and diversity, equity, and inclusion. Each theme was represented with at least three distinct practices as demonstrated in the table. Note that for a practice to be considered as such, at least four principals need to mention it explicitly in their interviews. To present the findings briefly, one paragraph per theme discussing the three practices is supplied for readers.

Table 2. Themes Constructed.

Themes	Codes (Ideas/Practices)
Theme One: Rigorous Curriculum/Content Knowledge	<ul style="list-style-type: none"> • Advanced Mathematics, English, and Computer Science Coursework • High Emphasis on Learning Competencies • Special Training Programs

Table 2. Cont.

Themes	Codes (Ideas/Practices)
Theme Two: Academic and Learning Behaviors	<ul style="list-style-type: none"> • Metacognition Cultivation • Study Habits • Collaborative Work
Theme Three: Scientific Inquiry/Cognitive Strategies	<ul style="list-style-type: none"> • Conceptualization • Investigation • Communication
Theme Four: Citizenship Development	<ul style="list-style-type: none"> • Nurturing Citizenship • Personal, Mental, and Financial Well-being • Developing Ethical Leadership
Theme Five: Post-secondary Education Process Preparation	<ul style="list-style-type: none"> • Career Counselors' Training • Specific Career and College Transition Planning • Self-Help and Advocacy
Theme Six: Diversity, Equity, Inclusion, Accessibility, and Belonging	<ul style="list-style-type: none"> • Mentorship • Inclusivity • Diversity and Cultural Competence Values

3.4.1. Theme One: Rigorous Curriculum

The most common CCR practice in high schools is requiring learners to complete advanced mathematics, English, and computer science courses. Kaled emphasized the role of calculus in college success in stating that “if I expect my seniors to lead our engineering firms in the future, I better equip them by having them complete one or two calculus courses”. High school principals prioritize the inculcation of valuing learning among learners as a CCR competency. Rabee informed the interviewer that “under my watch, I desire to instill the value of learning in every learner I or my school comes in contact with”. One of the commonly shared practices was “bringing experts from the community to communicate the value of self-learning, motivation for learning, and the demonstration of the tangible benefits of life-long learning” in the words of Iman. Principals encouraged parents to enroll students in specialized academic programs preparing learners in advanced science, technology, engineering, and mathematics. Raid suggested, “I know that some of students’ parents desire their children to attend the best colleges in the world, and therefore, my job is to at least make them aware of some helpful programs around us and online”.

3.4.2. Theme Two: Academic and Learning Behaviors

Principals demonstrated commitment to preparing students in metacognitive knowledge, abilities, and skills as preparatory activities for future careers and college study. Ahmed suggested that “at the start of every year, I ask mathematics and English teachers to sit down with every student and write an individualized development plan with specific goals for the year”.

High school principals recognized the importance of study habits training in preparing students for careers and college. Mona suggested that “every week, students complete one standardized test in my school reflecting the importance of such a skill for all sorts of post-graduation outcomes”. Principals urged parents to enroll in after school programs testing students’ general aptitude abilities or assessing their competencies using standardized examinations like the SAT. One of the prevalent CCR practices schools perform to prepare students for post-graduation outcomes is collaboration and teamwork. Bashayer suggested that “in every senior course at our school, students engage in at least one collaborative project to learn coordination and cooperation skills”.

3.4.3. Theme Three: Scientific Inquiry

Scientific inquiry preparation appeared to be a dominant theme in principals' responses on how their schools equip students with CCR. Principals mentioned several activities pertaining to the conceptualization phase of scientific inquiry students complete as part of their curriculum. Bader noted that "science teachers require students to prepare conceptual maps, classification matrices, and Venn diagrams to better conceptualize ideas and typologies in biology, chemistry, and earth science courses". The performance of scientific investigations appears to be a common practice in preparing students for entry-level courses in college programs or career training certifications. Mutaib stated that "in all our science courses, students are expected to conduct autonomous research projects requiring the specification of hypotheses, the collection of information, and testing the assertions using data analysis software." Public speaking features an essential CCR practice principals echoed throughout the interviews. More specifically, the ability to communicate scientific findings as part of the inquiry process seems to attract much of principals' attention when talking about students' preparations for careers and colleges. Mansora observed that "our schools push students to participate in local, regional, and national contests not only because we emphasize excellence, but also due to the many benefits associated with public speaking like confidence building and community engagement".

3.4.4. Theme Four: Citizenship Development

Nurturing citizenship activities appeared to constitute important endeavors in schools' preparatory practices for students to successfully navigate college and the workplace in the view of a few principals. Ahmed indicated that "our students will be the future leaders of our institutions when we retire twenty years from now, and therefore they need to appreciate the basic values of good citizenship".

Schools devote resources to teach students about personal, mental, and financial well-being. Rabee indicated that "a student could get an A on mathematics, computer science and English, but does not know how to manage his/her health or money, which is not a desirable characteristic for anyone to be ready for a rewarding future career". Some schools partner with local experts to visit their campuses and present on the best practices for improving human well-being, covering a wide range of topics. Iman stated that "I bring the best coach locally who lead the top soccer team in the area to motivate students mentally, and I ask him to utilize the same tactics he uses with his players, and honestly students love him, and interact with him massively bringing on the mental resilience training closer to them".

Leadership appeared to be a recurring theme when principals discussed how schools prepare students for college and careers. Faisal suggested that "teaching students good work ethics, and humane treatment of others are two of the most important competencies for anyone leading a life in the world after moving on from public education".

3.4.5. Theme Five: Post-Secondary Education Process Preparation

High school principals noted a need for the continuous preparation for career counselors to deliver optimal services for students. Mutaib observed "a constant worry for our school is the changing requirements, forms, and procedures colleges and employers have added an extra layer of confusion to everyone".

Another imperative post-secondary preparation practice principals voiced is transition planning. Some schools require students to meet with counselors more than once a year to establish a transition plan after graduation. Farah stated that "I ask each of my two counselors to meet with every junior three times a year. By the end of the third meeting, I expect the student and the counselor to generate a plan shared with parents who eventually inform the revisions of such a program".

High schools prepare students in self-help and advocacy seeking as core readiness skills for post-secondary outcomes. On the one hand, principals shared a series of activities their teachers and institutions utilize to equip students in seeking assistance on their own.

For instance, Faisal stated that “I ask my counselors to assign students the task of finding out available services at their top college choices and inform them about the process of obtaining such services”.

3.4.6. Theme Six: Diversity, Equity, Inclusion, Accessibility, and Belonging

Principals observed the importance of mentorship in the provision of CCR to their students. Farah noted that helping students find “advocates, mentors, and guides” fosters conducive environments for post-secondary success. In a similar vein, Faisal observed that teaching students “how to locate, identify, or garner” the support of inspiring individuals in “in their home settings or communities” establishes strong footing after leaving the K-12 system. High school principals demonstrated the success of inclusive practices on post-secondary outcomes for all students including learners with disabilities. Hoor stated that “our school mandates all students with disabilities or special needs to attend classes with their peers over 80% of the time”. Many principals recognized the role of increasing diversity in shaping cultural, social, and economic outcomes locally, nationally, and internationally. Consequently, principals seemed interested in training students in the broad reality of diversity and cultural competence. Raid engaged in “asking students to participate in schools’ multicultural events to celebrate the positive values of diversity on the school and the community”.

3.5. Variation in CCR Practices Among Schools

One of the interesting findings in this research is the distinctive patterns of CCR practices observed among various school types. On the one hand, all private schools in this research were located in urban settings. On the other hand, public schools were represented by either large urban institutions or small facilities with a few students in remote areas. Each of the three types: public urban schools, public rural schools, and private urban schools, exhibited different CCR patterns.

3.6. Private Urban Schools’ CCR Patterns

Private schools tended to exhibit a hyperfocus on two CCR themes more than others. Principals from private schools emphasized the role of rigorous curriculum, specialized preparatory college workshops, and advanced placement testing and coursework in equipping their students for college. Additionally, private schools paid more attention to preparing students for the transitioning process from the K-12 system to college.

Principals at private schools shared specific illustrations of how students complete competitive training programs designed to place them in top colleges and universities abroad. Ahmed stated that “I personally coordinate the college prep workshop with the summer camp program organized to prepare the top performers in our schools for taking the SAT and apply to at least five prestigious colleges in the United States. Last year, two of our students were able to obtain admissions at the University of California”. Relatedly, private schools indicated their commitment to science and engineering by exposing students to the most up to date technologies. Iman stated that “in our labs, the most cutting-edge Robotics technology is brought for our students. We invite faculty and deans from our top engineering schools to validate our equipment and teach our teachers. Doing these established connections between us and the colleges where we feed their enrolment with over 50 students every year keeping parents happy while ensuring rigor”. Practicing tests was one of the most common practices private schools’ principals shared with the interviewer. All demonstrated that “test scores are everything. Admissions decisions look at them, and scholarship boards award the highest weight to them. Therefore, our students practice all sorts of tests. We as a school purchased online testing subscriptions and have full time dedicated teachers that sit with students one to one to have them take tests”. In sum, private schools emphasize the role of rigorous academics more than other CCR practices.

Furthermore, private schools prioritized teaching students about college admissions, enrolment, and transition more than public institutions. Principals noted the formal classroom preparation for instructing students how to apply for local and foreign colleges and universities. Faisal stated that “I ask my teachers to have every junior student in our school apply for four colleges while being watched step by step”. Relatedly, principals in private schools suggested the proactive role of counselors in teaching students about college admissions criteria, application process, and major options. Kaled indicated that “counselors manage students’ application portfolios. Parents meet with them in the presence of the student and determine the number of colleges to be applied for and the majors desired. Counselors then reply with detailed criteria explanations and sit with the student to complete every step in the application process”. Thus, private school principals demonstrated the one-to-one attention students receive and the highly probabilistic nature of applying and enrolling in post-secondary institutions.

3.7. Public Urban Schools’ CCR Patterns

Public school principals concentrated on key cognitive and academic strategies preparing students for careers and college. Principals in public schools regardless of the setting or characteristics focused on critical thinking, problem solving, innovation, and creativity. Mutaib stated that “the Ministry of Education mandated all public institutions to teach a full course on critical thinking”. Relatedly, principals appeared to emphasize the role of autonomy and independent research skills in building the ready student for college. Mutaib and Bader alike suggested that “research is part of college, and students must learn how to appropriately analyze and interpret information in any given setting”. Principals in public schools recognized the role of creativity as a key attribute for post-secondary success. Farah suggested that “our teachers devised a course on thinking out of the box to comply with the new directive encouraging schools to innovate”. Likewise, Hoor demonstrated that “students compete in the innovation contest organized by the Ministry for public schools on the regional and national levels”. Thus, public schools appear to prioritize compliance with the Ministry of Education guidance, directives, and instructions advocating for further critical thinking and innovative problem solving in the classroom.

3.8. Public Rural Schools’ CCR Patterns

One of the distinctive CCR patterns among rural schools is the emphasis on citizenship development. Principals at rural schools encouraged students to take an active part in community work and volunteering. Hamad stated that “I like many of our students are from this beloved village, and we feel that we belong to it and must keep its image glowing in every meaning of the word”. Thus, learners in rural schools partner with local organizations to preserve the status and environment of their space. Iman suggested that “three times a year, our students join efforts with the local municipality to make our streets, worship institutions, and government buildings clean”. Students also attend local municipality offices and meetings to voice their concerns orally and in written forms. Mansora indicated that “our students will likely lead us soon. They need to practice public speaking, persuasion, and rhetoric. I ask my teachers to take them and attend public gatherings and municipality council meetings”. Rural principals emphasized citizenship development practices more than any other CCR theme.

4. Discussion

The findings impact contemporary understandings of CCR on a global scale. Consequently, the discussion of results in relevance to prior theoretical and conceptual research precedes conversations concerning the implications of the research. Subsequently, detailed practical implications, theoretical considerations, and future research directions constitute the remaining parts of the discussion in this analysis. Finally, the limitations of this investigation are presented in detail for readers to best situate the findings of this research in the CCR literature.

4.1. Relevance to Prior Research

One of the most important findings in this research is the partial support lent to popular CCR models originating in the United States. On the one hand, four of the six themes reported by principals correspond to the four dimensions specified by Conley (2012) as the foundation for the commonly used Conley Readiness Index. On the other hand, the findings also support the citizenship learning CCR perspective, as well as the academic assessments view. One of the main themes in CCR is citizenship development, signaling the importance of the construct in public education globally. By the same token, principals unanimously agreed that a rigorous curriculum and repeated testing to reach preferred scores confirm the importance of the core standards model of CCR. On a more positive note, both perspectives are complementary rather than mutually exclusive. Thus, CCR accommodates both citizenship development and curriculum and instruction practice, as evident in principals' commentary.

CCR practices vary with respect to school characteristics. While prior research noted that schools endowed with little to no resources carry out fewer CCR practices compared to well-endowed schools [14,19,32], this research notes that the locale and setting also influence CCR practices regardless of resources. Rural schools emphasize humanistic, communication, leadership, and citizenship CCR competencies more than urban schools. Private schools, usually endowed with more resources, concentrate on testing and a rigorous curriculum in preparing students for college. Thus, access and equity are still important considerations in the CCR provision debate as past researchers have suggested [31,33,38].

In this research, diversity and multiculturalism appeared as a dominant theme in CCR. Such findings confirm the rising call among educators to prepare all stakeholders in the education process in the areas of cultural competence and multiculturalism [20,33]. Further, principals increasingly shared illustrations noting schools' commitment in preparing students in the areas of accessibility and equity. Such a finding is related to an increasing rate of internationalization in higher education. Similarly, there is an improving awareness among education institutions on addressing the needs of vulnerable populations.

4.2. Theoretical Implications

CCR theoretical frameworks are not keeping pace with the changing cultural, social, environmental, and global environments facing future generations [14,15]. Much of the theoretical development originated from American federal large-scale legislations prioritizing the maintenance of strategic competitive advantage over competing nations [13,14,16]. Little concern paid to issues of diversity, multiculturalism, cultural competence, equity, and inclusion has shaped theoretical evolutions and revisions with respect to CCR models. The current investigation demonstrated schools' commitment to teaching students about vulnerable populations and, more importantly, how to perceive and interact with them in public. Increasingly, multiculturalism plays an important role in shaping workplaces and colleges around the world. Similarly, more people with disabilities, language learners, and displaced populations enroll in career and college programs providing an impetus for schools to engage in multicultural and diversity training. Consequently, designers of the CCR curriculum and instruction need to heed the rising influence of diversity, equity, inclusion, and accessibility on students' environments.

Contemporary models of CCR ignore the essential role of engagement in preparing students for post-secondary institutional outcomes. While past research noted the significant positive gains in a wide variety of students' success outcomes like college completion or desirable programmatic outcomes associated with engagement [69], little emphasis is placed on the theorizing of readiness. Scholars need to pay attention to the behavioral, social, cognitive, and more importantly affective dimensions of engagement. Astin [70] demonstrated how involvement truly impacts students' success in any program. Therefore, high schools need to focus more on nurturing involvement and engagement at all levels and across all segments of their service provision [71]. Theories of CCR need a revisionist examination incorporating the important role of involvement, as well as engagement.

Equitable CCR provision in Arabic-speaking schools is far from being achieved as suggested by this research. Therefore, CCR practices could be customizable to reflect the needs and characteristics of certain types of schools. Consequently, new models reflecting the unique needs could be developed to better assist students attending schools with little to no CCR efforts. Such endeavors bridge the gap between them and their peers attending schools with high levels of CCR. Equity and accessibility appear to be important dimensions of CCR practice, as well as conditions motivating further theorizing in the discipline. Academic, cognitive, content, and post-secondary preparation may not be the only areas students need training in to succeed after graduation. Students attending less well-endowed schools may need additional awareness, training, and practice in additional competency areas like dealing with poverty, broken homes, and navigating success in a resource-poor environment. Consequently, further theorizing in the CCR models is needed to reflect the variation among schools and students with special emphasis on equity and accessibility.

4.3. Practical Implications

The various themes confirm past researchers' findings that performance-based learning activities introduce students to post-secondary career and college options [14]. More importantly, having students who have low access to educational opportunities and supportive mentors and chaotic household environments perform a series of activities like visiting college campuses, shadowing figures of communal influence, and volunteer in local projects enhances their awareness of the variety of options available after graduation [38,72]. By the same token, requiring underserved youth to apply for college while attending school and spending time with college counselors as well as recruiters for various jobs mitigates some of the disadvantages experienced by such populations compared to the economically and socially better off segments of the population [72–75]. Consequently, schools are recommended to introduce performance-based activities related to CCR at every grade level.

The provision of effective training to school counselors is an effective strategy in improving CCR outcomes. Congruent with prior research, the findings of this investigation note the exigent need for enhancing counselors' training and preparation. In many schools, counselors lacked the necessary abilities to prepare students to write effective statements, essays, and college entry papers. Similarly, counselors lacked preparation in the use of artificial intelligence tools helping students overcome English language barriers when applying to native English higher education systems. Little career counseling takes place in counselors' meetings with students, indicating an immediate need for preparing counselors to advise high school learners on non-college-related options in the marketplace. Parikh-Fox et al. [38] suggested preparing counselors in formal settings like the provision of regular workshops to ensure the timeliness and accuracy of information shared. More importantly, Perusse et al. [72] indicated that counselors need to perform the tasks students are expected to do like writing essays or applying for jobs to enhance their personal self-efficacy, as well as on the job competence. Therefore, this analysis notes the need for preparing counselors to become better at their job using performance-based training tailored to specific tasks. The completion of several sessions annually ensures better preparation, which generates improved outcomes for students.

Employment and work opportunities provide students with practical experiential learning assets, supporting them in their post-secondary careers [76–78]. One of the missing ingredients in CCR practices shared by most principals is a lack of emphasis on the role of real work experiences in students' success in college and careers. None of the interviewed principals noted that his or her school partners with local employers to provide part-time work experiences for their students. By the same token, principals provided little detail on how employment opportunities are provided for vulnerable student populations like those with learning disabilities. Evidence suggests that the best predictor of post-secondary success for special needs students is the provision of work opportunities or transitioning employment-related services [79,80]. One of the practical implications for this research is

the need for principals and high schools to incorporate more hands-on employment-related training for students, preparing them for jobs in the future.

4.4. Future Research Directions

Comparative policy studies of CCR are a promising area of scholarly and applied research. Notwithstanding the United States' disproportionate advantage with respect to publishing about the topic, other regions around the world have equally devoted colossal policy emphasis to CCR. Nevertheless, little research has investigated the similarities and differences with respect to approaches toward CCR. To what extent do governments around the world regard CCR and how do they approach preparing students for college and the workplace? Answering such questions provides international organizations and institutions with foundational knowledge to devise day-to-day programs supporting the education of needy populations like children and adolescents receiving their K-12 education in refugee camps.

One of the least investigated topics concerning CCR is schools' emphasis on career development activities. Future research could examine the specific activities schools undertake to help students develop their work identities. Relatedly, the relationship between career development theories and their predictors and CCR theoretical models have been insufficiently examined in past empirical research. For instance, to what extent do predictors of career development represent the core competencies of CCR programs in the United States or any specific country of interest? Researchers could benefit from looking at career development theories to inform debates on career readiness and impact schools' day-to-day operations.

While conceptualizing CCR has emerged as a defining characteristic of education research, its measurement has not. Future researchers are urged to develop data catalogs that track key constructs and indicators at the school, district, and national levels. The data could include metrics related to the six themes reported in this research and beyond. Instituting data collection on CCR practices instills a culture of responsibility among stakeholders prioritizing the importance of CCR in the educational process. More importantly, collecting relevant information on CCR allows all stakeholders to identify areas of improvement for intervention at their level.

The present analysis noted the importance of multiculturalism and citizenship development in the work of Arabic-speaking high schools as part of CCR endeavors. Theories of CCR barely reflect the increasing importance of dimensions proven to be important for career success. Not only are multiculturalism or citizenship development absent from much of the theorizing on CCR but also advanced technical competences like artificial intelligence, robotics, and programming. Today, much of the work being conducted on factory floors, manufacturing facilities, service delivery enterprises, and government offices requires more than simple computer literacy or information knowledge. Therefore, a broader revision of contemporary frameworks is needed. Such reformulations aim to maximize the fit between observed work environments and theoretical models of CCR informing the design and implementation of programs.

4.5. Limitations

Each interview was limited by time and the number of questions to the participating principals. The type of question determines the responses informing results. Therefore, if a different set of questions were asked, the information provided by participants would indeed differ. To address this shortcoming, the interviews featured sets of questions on core CCR practices and how they are covered in the literature. Additionally, the interviewer inquired about further CCR practices not covered in the core question set. This allowed principals to share information freely without being directed to a certain competency or skill.

Transferability in qualitative research, similar to generalizability in quantitative research, is challenging to hold across similar settings. The findings in this research could

have been different if the project had interviewed a different set of principals or took place in another country. To mitigate the variability effect and maximize transferability, the results report was shared with participating principals featuring pseudonyms to solicit feedback. The outcome was uniform in supporting the themes and practices as part of high schools' CCR efforts. Additionally, Arabic news stories related to CCR in the Arab World published in the past five years were retrieved to triangulate findings. Results indicated that the practices reported by principals in this research existed in news stories and were supported by participants, indicating sufficient evidence to establish transferability and credibility of the findings. Despite such checks, interviewing a distinct set of individuals is likely to produce slightly varying results as an outcome of qualitative interview research.

One of the limitations in this research is the peculiarity of the data. While principals shared detailed examples about how their schools foster college readiness, they all came from a single country, Saudi Arabia. Saudi schools tend to be better funded compared to other educational systems in the Arabic-speaking Middle East and North Africa. Also, all principals came from the same region in Saudi Arabia, i.e., Tabuk, in the northern part of the kingdom. To mitigate such effects, this research utilized data from sixteen varying schools with respect to size, setting, and gender. The in-depth interview questions also asked about the various facets of CCR, producing sufficiently detailed information generating the reported themes in the analysis.

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