From Policy to Practice:

Implementing "Move On When Ready" at the Local Level in Arizona

by

Amanda Burke

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Approved April 2012 by the
Graduate Supervisory Committee:

Oscar Jimenez-Castellanos, Chair
Gustavo Gonzalez
Debra McGlohon Duvall

ARIZONA STATE UNIVERSITY

May 2012

ABSTRACT

The purpose of this study was to understand what promotes or hinders the implementation of a high school education reform policy in Arizona schools from the perspective of a nonprofit organization that served an active and intentional role as an intermediary organization working directly with schools and policymakers. The study was intended to facilitate implementation of the education reform policy in the school sites, to gain knowledge that will be used to inform future cycles of planning and implementation, and to influence state policy.

This study was an explanatory nonexperimental multiple case study involving five high schools across Arizona. The study focused on the early phase of implementation of the education reform policy. A mixed methods case study design grounded in the tradition of participatory action research was employed. Data were collected through surveys, interviews, observations, focus groups, and a document review.

The results suggest that the education reform policy was implementable in diverse schools across the state. However, how the education reform policy was implemented in each school site appeared to vary. A number of factors seemed to influence the actual implementation process including the design and understanding of the reform, selection process, district context and school characteristics, and school capacity to undertake the reform. The findings suggest that the nonprofit organization that served as an intermediary organization within

the study influenced the implementation process. It appears that this primarily

took place by providing direct assistance to the schools, creating opportunities for

collaboration and communication across the multiple school sites implementing

the same education reform policy, and serving as a connector to other

organizations, policymakers, and the larger public. The study resulted in the

nonprofit organization's deeper understanding of the complexity of implementing

the education reform policy, the challenges schools face in implementing the

reform, and the factors that appear to promote or impede the implementation

process.

DEDICATION

This dissertation is dedicated to the students I taught in 1999 at Locke High School in South Los Angeles and to my husband, Cody, for his encouragement and love. The stories of my students and the millions like them across our country have inspired my commitment to the field of education, my passion for educational change, and my interest in this study. Without the support of my husband none of this would be possible. Cody, you have made countless sacrifices in supporting me to pursue my dreams. Throughout this experience you kept me grounded, made me laugh, and reminded me that even though at times jumping through this ring of fire seemed daunting, at the end of the day I could do it with ease - or at least with minimal scorch marks.

ACKNOWLEDGMENTS

Many people have supported and encouraged me throughout my doctoral studies. I would like to express my sincere gratitude to them and acknowledge their contribution to the successful completion of this work.

My thanks and appreciation to the members of my dissertation committee, Dr. Oscar Jimenez-Castellanos, Dr. Gustavo Gonzalez, and Dr. Debra Duvall, who have generously given their time and expertise. I am especially grateful to my advisor, Dr. Oscar Jimenez-Castellanos, for his continued support of me in carrying out this study. He consistently held high expectations, challenged me to put forth my very best work, and provided excellent guidance throughout my graduate school experience that helped me articulate and carry out this study. I thank Dr. Oscar Jimenez-Castellanos for providing me with the skills and confidence that I know will serve me well as a researcher and as a practitioner.

This dissertation would not have been possible without the schools that participated in the study. Their dedication and commitment to improving education is inspiring and I am appreciative of the opportunity to work with them. I also wish to thank my colleagues at the Center for the Future of Arizona and at the National Center on Education and the Economy who have served as tremendous thought partners and encouraged me throughout my doctoral studies.

I would be remiss if I didn't thank my fellow student colleagues who have provided tremendous support throughout the program. It was a pleasure to be

surrounded by many wonderful people who shared my passion for education, provided new perspectives on educational issues, and were happy to share a cheese crisp while we commiserated at the Copper Door. I would especially like to thank my colleagues with whom I worked over the past two years in our learning scholar community.

And finally, my deepest gratitude goes to my family and friends who have provided me with much love and support. I am indebted to my parents, Redmond and Diane Burke, who taught me the importance of education, have served as wonderful role models, and have always supported me in the pursuit of my dreams. My doctoral studies and the completion of this dissertation were no exception. My father served as my editor and was immensely helpful in this role, but even more important were the phone calls and words of encouragement that I received from both of my parents throughout this process. I am especially thankful to my husband, Cody, who has been by my side every step of the way through my doctoral program and without whom I could not have completed this journey.

TABLE OF CONTENTS

xiii

xvi

LIST OF TABLES

LIST OF FIGURES

Chapter 1

INTRODUCTION

Education in Arizona

In Arizona, of every 100 grade 9 students, 68 graduate from high school, 35 enter college the following fall, four graduate with a bachelor's degree in 4 years, and five graduate with an associate's degree in 3 years (Complete College America Arizona State Report, 2011). The numbers are disquieting, especially when one considers it is estimated that by 2018, 63% of U.S. jobs will require some form of postsecondary education or training (Carnvale, Smith, & Strohl, 2010). What does Arizona look like on other measures? The state ranks 48th in per student investment in K-12 education, with funding levels at $7,727 per student. Arizona ranks 26th in the nation in school district finance inequity indicating that the average per-pupil spending varies substantially across districts (New America Foundation, 2011). The children attending Arizona's schools are diverse. Of those students enrolled in K-12 education, 5.6% are African American, 5.4% are American Indian, 2.8% are Asian, 41.6% are Hispanic, and 44.5% are White (New America Foundation, 2011). Many children are poor, as reflected by a 17.2% student poverty rate and just over 37% qualifying for federal free and reduced lunch prices based on family incomes. Of the more than one million children attending Arizona schools, 11.2% participate in special education services and 13.8% qualify as Limited English Proficient according to state law. The numbers begin to tell a story.

The data indicate academic readiness challenges at every level. Kindergarten teachers report that more than 50% of entering students do not have basic skills such as knowing their ABC's and 123's (Migliore, 2006). Only 28% of Arizona's grade 4 students demonstrate proficiency in mathematics and 25% in reading (NAEP, 2009). At the grade 8 level, only 29% of students demonstrate proficiency in mathematics and 27% in reading (NAEP, 2009). The high school graduation rate in the state has remained relatively stagnant at about 70% and remediation rates in community colleges are high. Many students graduate from high school and enter postsecondary education only to find out that they are not prepared for college-level studies. Within the Maricopa Community College District system, the largest community college system in the world, 42% of high school graduates entering community college as freshmen are placed in below college level math courses. (Maricopa Community College District, 2010). Just to give a sense of the magnitude of remediation taking place in Arizona community colleges, if Arizona's high schools graduated all of their students ready for college, the state would save almost $103.7 million a year in remediation costs and lost earnings (Alliance for Excellent Education, 2006). The challenges Arizona faces in education are significant, and they are only compounded by a state fiscal crisis that in 2012 resulted in $1.5 billion cut from the state budget, directly impacting Arizona classrooms.

Arizona Policy Designed to Increase High School Student College Readiness

In an effort to greatly increase the proportion of students in Arizona who graduate from high school ready with the skills and knowledge needed to succeed in college, House Bill 2731, better known as the "Move On When Ready" bill, was signed into law May 2010. The legislation, one of many reform bills introduced and signed into law during the 2010 legislative session, creates an alternative to the traditional high school diploma by allowing high school students to advance in their educational career based on academic achievement instead of seat time. A key provision includes the establishment of the "Grand Canyon High School Diploma," an alternative performance-based high school diploma available to students on a voluntary basis beginning in the 2012-2013 academic year. The legislation stipulates students who pursue a Grand Canyon High School Diploma must participate in an aligned instructional system referred to as a Board Examination System (BES). The BES includes core courses aligned to national and internationally benchmarked standards, targeted teacher professional development, and a series of curriculum-based examinations that assess student mastery of knowledge and skills on a variety of performance measures. Each participating school is able to choose from among a list of BES providers approved by the Arizona State Board of Education. Currently, there are two providers approved in Arizona to offer a lower division (grade 9 and 10) BES and four providers approved to offer an upper division (grade 11 and 12) BES. It is

possible additional providers could be approved in future years by the Arizona State Board of Education.

Students who participate in the BES courses and pass the examinations may qualify for a Grand Canyon High School Diploma as early as the end of their sophomore year, or during their junior or senior year. The BES examinations must have common passing scores set at the level of literacy required to succeed in an Arizona community college course counting toward a degree or certificate without remediation. After receiving a Grand Canyon High School Diploma, students have four options from which to choose. The legislation states that students can (1) remain in high school and enroll in advanced courses in preparation for postsecondary education; (2) graduate early and enroll in a community college, taking courses at a community college campus or at their high school; (3) enroll in a career and technical education (CTE) program that leads to an industry recognized credential or certificate, taking courses through their district or through one of Arizona's Joint Technical Education Districts; or (4) remain in high school and participate in programs of study available through their home high school or district.

Additional provisions include the involvement of the Arizona State Board of Education in identifying the graduation requirements for the Grand Canyon High School Diploma, the selection of a private organization to manage and oversee the initiative for five years on a no-fee basis, and the involvement of a national organization to provide technical services relative to the BES on a no-fee

basis. The legislation stipulates that participation in Move On When Ready

(MOWR) is not mandatory by schools. No appropriation was requested for the

MOWR legislation, but it does provide for the use of existing education dollars in

a more flexible way, such as the ability for high schools to continue to receive a

portion of per pupil funding for students who graduate early and pursue full-time

community college coursework in order to assist the schools in providing student

and/or teacher incentives, to offset costs associated with the BES, and to provide

support to struggling students. The legislation had bi-partisan political support

throughout the legislative process. The bill passed out of the Arizona State Senate

with 24 votes in favor and four "no" votes with one member absent. It passed out

of the Arizona House of Representatives with 42 votes in favor and 14 "no" votes

with four members absent (Arizona State Legislature, HB 2731 Bill Status

Overview).

HB 2731 was actively supported by the Center for the Future of Arizona

(CFA), a nonprofit organization where I work as the director of education strategy

and innovation. Established in 2004, CFA combines public-policy research with

collaborative partnerships for the purpose of helping to improve and shape

Arizona's future through an action-oriented agenda. CFA worked closely with

the National Center on Education and the Economy (NCEE) and a related

Consortium on Board Examination Systems, of which Arizona is a member, to

bring the idea of MOWR to Arizona, to build support for the effort, and to support

the legislation. Specifically, CFA held informational meetings open to anyone

interested in attending and made presentations across the state. CFA was directly

engaged in gathering feedback on the legislation from educational stakeholders in

K-12, higher education, and various educational organizations including the

Arizona Education Association, the Arizona School Administrators Association,

the Arizona School Boards Association, and the Arizona Department of

Education. The feedback was used by CFA to inform changes to the language in

the legislation prior to its introduction in the House Education Committee and

throughout the legislative process in the form of amendments. Though not

directly named in the legislation, it was the intent of bill's sponsor and the

understanding of CFA that should the bill be signed into law, CFA would respond

to a request for proposal (RFP) issued by the Arizona State Board of Education to

serve as the private organization to oversee the first five years of the MOWR

effort. This was also publicly communicated in meetings and in testimony at the

Arizona Legislature

Independent of NCEE, CFA established and developed support for a

whole-school MOWR strategy. While the MOWR policy allows schools to

implement the reform as a whole-school or partial strategy, CFA actively

encouraged schools to consider a whole-school MOWR strategy out of concern

for the potential of tracking and lack of access to the curriculum for some

populations of students, particularly if schools employed a selection process as

part of a partial MOWR school approach. The whole-school MOWR strategy is

intended to be a comprehensive high school education reform designed to ensure

all students in a given high school participate in a rigorous, curriculum-driven

program of study coupled with and guided by national and international college

and career readiness standards for the purpose of ensuring they master the

knowledge and skills needed to be prepared for and succeed in postsecondary

studies without remediation – whether that is at a trade or technical school,

community college or four-year baccalaureate degree granting institution.

Support for struggling students, academic advising, and collaboration with feeder

K-8 schools are included in CFA's MOWR whole-school model. While there are

other states working to advance a MOWR model, Arizona is the only state with

policy in place that makes it possible for any school to adopt and implement the

MOWR strategy. It is also the only state with a third party organization, like

CFA, leading the initiative.

Bridging Policy to Practice

The MOWR state policy provides a framework for educational change

beginning at the high school level, but by itself does not improve educational

outcomes for Arizona's students. In order to create actual change, the MOWR

state policy must be translated across systems and implemented at a local level in

Arizona schools. Education policy implementation research has shown time

again that without sensitivity to local variability, the implementation of state

mandates remain limited and risk being altered from their original intent

(McLaughlin, 1990; Rossman, 1996). It is the process of implementation that

matters most (McLaughlin, 1990). A number of factors may enhance or impede

that process, including the state and federal context, district context, school context, the strength of the reform model being implemented, and the role of design teams and other third party or intermediary organizations that may be involved in the implementation process (Honig, 2003). The implementation process is complex, but essential to the success of education reform.

As anticipated, CFA responded to an RFP issued by the Arizona State Board of Education to manage and oversee the first five years of the MOWR initiative and was selected in September 2010 to fill that role on a no-fee basis. As stipulated in the legislation, the responsibility includes leading a planning year to further develop the model and implementation plan, and working with interested schools to plan for and actually implement the program at the local level. Additionally, CFA received an 18-month planning grant from a local education foundation specifically to develop in partnership with local schools an actionable implementation plan for a whole-school MOWR strategy. CFA is well positioned to move beyond the formal policy structure (McLaughlin, 1990) and serve as an intermediary organization, defined by Honig (2004) as an organization that "operates between policymakers and implementers to affect changes in roles and practices for both parties" (p. 65).

Brief Description of the Study

This study examines what promotes or hinders the implementation of MOWR at the local level in schools across Arizona by addressing the following questions:

1. To what extent and in what ways is MOWR being implemented at the local school level?

2. What are the factors that appear to enhance or impede implementation of MOWR at the local school level?

3. As an intermediary, in what ways does CFA influence the implementation process of MOWR at the local school level?

This dissertation is organized into six chapters. Chapter 1 introduces the study and its significance. Chapter 2 is a review of the research literature on education policy implementation, education reform, and educational change. Within Chapter 2, co-construction theory is discussed and provides the theoretical framework for the study, helping to explain the implementation process as a system-wide activity that involves interrelations among policy levels and actors (Datnow, 2006; Datnow, Hubbard & Mehan, 1998; Datnow, Hubbard & Mehan, 2002). For the purpose of this study, implementation is defined as the use of new materials such as curriculum materials, the use of new teaching approaches, and changes in beliefs and understanding (Fullan, 2007; Mitra, 2001). Chapter 3 describes the innovation employed in this study by CFA to intentionally facilitate the implementation of MOWR. Chapter 4 describes the research methodology and Chapter 5 reports the data findings and analysis. Finally, Chapter 6 presents a discussion of the findings from the study and implications for future policy, research, and practice.

Significance of the Study

The purpose of the present action research study is to facilitate the implementation of MOWR in school sites and to understand how implementation unfolds utilizing the lens of co-construction theory (Datnow, 2006; Datnow, Hubbard & Mehan, 1998; Datnow, Hubbard & Mehan, 2002) for the purpose of discovering what Honig (2006) would describe as what works for whom, when, where, and why. Schools across Arizona are located in diverse communities, and what may be implementable in one community may not work in another. Given the need to improve education across the state, it is incumbent on CFA to recognize the complexities of policy implementation and the idea that interactions between policies, people, and places shape implementation outcomes (Honig, 2996). By better understanding the process, CFA can begin to build a knowledge base in Arizona around implementation of MOWR and inform future work in policy and with schools.

As with many education reforms, there is a strong likelihood of unintended consequences as MOWR is implemented. For example, a school may choose to implement MOWR as a partial or as a school-within-a-school strategy, serving only some high school students. This approach could lead to the tracking of students, a practice where schools, often structurally, provide different opportunities for different groups of students (Oakes & Saunders, 2008). While the BES is already developed and has been utilized in education systems within and beyond the United States, its use through MOWR is a new application.

Therefore, there are some unknowns in regard to the impact on students and

schools. Additionally, while the BES providers approved for use in Arizona are

all nonprofit organizations, it is the case that there are costs associated with the

systems and that curriculum developed outside of the schools will be utilized in

the MOWR model. At the same time, there are no funds currently available for

schools to access to implement the MOWR program. This could result in

inequity, with schools that have access to greater resources being better positioned

to afford to implement the MOWR model. These factors may affect the

implementation of MOWR, and could have possible negative impacts on schools.

By acknowledging these potential pitfalls of the MOWR policy and model, CFA

can begin to intentionally address already identified possible unintended

consequences that otherwise may be left unattended to in implementation, and

purposefully examine elements of the policy and model that have the potential to

be negative for implementation and student academic success. The knowledge

gained through this study is intended to inform future cycles of planning and

implementation work with early adopter schools and to improve the MOWR

policy as its application potentially expands to other schools across Arizona and

to other states.

A personal commitment to improving educational outcomes for all

students, especially minority students and low-income students, who often lack

access to the same education as their more affluent peers, drives this study. As a

leader in CFA's MOWR initiative and the primary person directly engaged with

early adopter schools, I am invested in the success of MOWR. However, that
success does not rest solely with whether or not schools choose to adopt the
MOWR model. Rather, it is dependent on whether or not the application of the
MOWR model can significantly change educational practices in high schools,
thereby raising academic outcomes for all populations of students. While
challenging given my professional involvement in the MOWR initiative, it is
essential that I critically examine the model and the way in which it is
implemented at the local level in order to honestly advance CFA's goal, which is
not simply for schools to implement MOWR, but to increase the number of
students across all populations who graduate and go on to continue their education
beyond high school without needing remediation. By studying the
implementation process I seek to become more effective in working directly with
schools to implement MOWR and better able to influence state policy for the
purpose of improving the MOWR policy.

Chapter 2

REVIEW OF SUPPORTING SCHOLARSHIP

In this chapter, the research literature on college readiness and education reform is reviewed as context for the MOWR strategy. Implementation of education policy and reform models and comprehensive school change are examined through an in-depth review of the literature in order to begin to build a framework to help answer the research questions posed in the introduction. Further analysis follows regarding what is known about intermediary organizations and, specifically, their role as actors and influencers in educational reform. Finally, the theory of co-construction is explored and identified as the theoretical framework underpinning this study.

College Readiness and Implications for Education Reform

It is well recognized that postsecondary education is now more important than it has ever been. Recent reports project that by 2018, the United States will need 22 million new college degrees and at least 4.7 million workers with postsecondary certificates, but that we will fall short of that number by at least 3 million postsecondary degrees (Carnvale, Smith, & Strohl, 2010). Studies show that the unemployment rate for individuals with only a high school diploma is consistently about twice that of bachelor's degree recipients and that the typical high school graduate can expect to earn about 66% less during a 40-year working career than the typical bachelor's degree recipient (College Board, 2010).

Reaching college remains challenging for many students, especially many low-income and potential first-generation students (Cook & Cordova, 2007). The literature points to numerous postsecondary entry barriers. Curriculum and assessment connections between the K-12 and postsecondary system are inadequate, with secondary school students lacking strong and clear signals about necessary academic preparation to pass placement exams (Adelman, 2006; Venezia, 2008). Poor academic advising exists at the secondary and postsecondary education levels along with poor placement polices (Venezia, 2008).

While detrimental for all students, these findings are particularly problematic for students who are traditionally underrepresented in postsecondary education, such as first-generation college goers, students of color, and students who are economically disadvantaged (Venezia & Kirst, 2005). Student apathy about the college preparation process, varying student aspirations by type of school (high performing vs. lower performing) and inequalities within and between schools and districts also act as obstacles to postsecondary entry (Venezia & Kirst, 2005). Structural barriers between K-12 and postsecondary education create further obstacles to postsecondary access and success for many students. In effect, the K-12 and postsecondary sectors operate independently, with separate funding mechanisms and a lack of longitudinal data systems serving as just two examples (Venezia, 2008).

College Readiness and Postsecondary Success

While college access remains an issue, the proportion of students attending college is increasing (Cook & Cordova, 2007; Adelman, 2007). What remains troubling though are college remediation rates, which remain persistently high in community colleges at about 60% (National Center for Education Statistics, 2004), and college completion rates, which are particularly low for Latinos and African-Americans when compared to bachelor's degree completion rates of Asians and Whites (Adelman, 2006; Symonds, Schwartz, & Ferguson, 2011). Given this, there is an increasing focus on college readiness and college success as opposed to just merely college access (Adelman, 2007; Conley, 2008).

College readiness can be defined as "the level of preparation a student needs in order to enroll and succeed, without remediation, in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program" (Conley, 2008, p. 4). College success can be defined as "completing entry-level courses at a level of understanding and proficiency that makes it possible for the student to consider taking the next course in the sequence or the next level of course in the subject area" (Conley, 2008, p. 4). Through his research on college knowledge and understanding university success, Conley (2008) established a broader, more comprehensive conception of college readiness built on four facets: key cognitive strategies, key content knowledge, academic behaviors, and contextual skills and knowledge. In examining college readiness against these aspects of college

15

readiness, Conley (2008) found that far fewer students are ready for college than when judged by the conventional standard of courses taken and grades received in high school. This definition takes into account that college readiness is more complex that possessing academic content knowledge alone.

High School Reform Models Targeting College Readiness

While improved education outcomes are needed at every grade level, one can make a strong argument that reforming high schools consistently presents one of the greatest challenges to the United Stated education reform movement. Elementary schools have seen gains from a number of education reform efforts such as Success for All within diverse and various geographic communities including Compton, California; El Paso, Texas; and Charlotte, North Carolina, (Noguera, 2002). The picture looks very different for high schools. This is particularly true for large urban high schools that are described as dropout factories, with more than 50% of students not graduating from high school. These schools are frequently criticized for providing unequal program options and fragmented curricula (Darling-Hammond, 2006).

A number of high school reform efforts have been introduced to improve academic outcomes and address issues of college readiness for all populations of students. Examples of these reforms include detracking, which is the introduction of a rigorous academic curriculum for all students in a school, typically coupled with a comprehensive system of academic supports (Mehan & Alvarez, 2006; Oakes, 1998; Welner, 2005); early college high schools, which were first

16

introduced in 2002 and designed to offer a rigorous curriculum and the

opportunity to attain college credits while in high school (Cole, 2010; Kaniuka,

2010); and the introduction of comprehensive school reform programs such as the

Accelerated Schools Project, America's Choice, and Success for All (Desimone,

2002). A small schools approach, which can include actual smaller high schools

or comprehensive high schools that are transformed into smaller learning

communities, has found some success graduating larger numbers of students and

sending many of them to college (Darling-Hammond, 2006). In addition to the

small schools approach, research suggests some practices are found to be effective

in increasing college readiness in high schools. These practices include well-

qualified teachers supported by ongoing professional development and peer

collaboration, personalization for students through teams of teachers working with

shared groups and through advisories in which small groups of students meet with

the same teacher during the academic year, a common core curriculum organized

around performance-based assessments, and support for struggling students to

help them meet the demands of the curriculum (Darling-Hammond, 2006).

Increasingly, the policy recommendation for helping high schools to

improve college readiness is to align high school curricula and graduation

requirements with college readiness standards, place larger numbers of students

into more rigorous coursework, and increase the rigor of state exit examinations

to meet college entrance requirements (Adelman, 2006). However, this type of

alignment does not currently exist at scale. As of 2009, no state was using its

17

existing high school assessment system, such as high school exit exams or performance on college entrance examinations, to benchmark college readiness, and only a few states had linked high school student indicators to actual college performance (Nagaoka, 2009). Recognizing many states' growing interest in using high school exams for postsecondary purposes, Conley (2007) completed an analysis of the content of state tests relative to a set of standards that identify knowledge and skills necessary for success in entry-level university courses and found that while there was some alignment, the current high school exams cover only a portion of what is necessary for college readiness. While there is still healthy debate as to whether or not high school tests should have any relation to college readiness (Conley, 2007), states that do wish to use their high school exams as a way to provide information on college readiness or placement likely need to revisit the exams for alignment and to assess their ability to measure the more cognitive complex aspects of college readiness.

Use of Board Examination Systems as A College Readiness Reform

A critical component of the MOWR model is a Board Examination System (BES). First introduced in the report *Tough Choices or Tough Times* (National Center on Education and the Economy, 2008), a BES is described as an aligned instructional system that includes the following elements: (1) high school programs consisting of courses that constitute a whole, coherent core curriculum, typically consisting, at a minimum, of courses in mathematics, the sciences, history and the arts; (2) each course based on a detailed syllabus; (3) instructional

materials aligned to that syllabus; (4) high quality examinations that are designed

to assess the extent to which a student has mastered a particular curriculum and

can apply knowledge learned to unfamiliar problems (typically through extended

response or through performance-based applications such as a lab practicum); (5)

external professional scoring of the examinations; and (6) high quality training of

the teachers who will teach the courses tied specifically to the individual course

(National Center on Education and the Economy, 2010). Unlike these systems

used in many other nations, students can take the examinations repeatedly in the

model advanced in the *Tough Choices* report (2008). As the exams are passed,

students may move on in the education system, going to a community college or

continuing on in high school for more advanced study (National Center on

Education and the Economy, 2008).

Because the application of a BES is a relatively new concept in the United

States that is only now being piloted by Arizona and a handful of other states

through the Board Examination System Consortium (NCEE web site), there is

little research on their use or effectiveness in the United States. However,

international research on high school exit examinations, and specifically

Curriculum-Based External Exit Exams (CBEEEs), influenced the identification

of a BES as a reform strategy (National Center on Education and the Economy,

2010) and therefore will be briefly discussed. CBEEEs are defined as exams that

are subject specific; are set to an external standard; apply to nearly all secondary

students; assess a major portion of what students should know and be able to do in

a specific course and content area; signal multiple levels of achievement in a subject; assess more difficult material; and have consequences for students, but do not prevent a student from graduating from secondary school (Bishop, 1998; Bishop, 2005). CBEEEs differ from voluntary curriculum-based external exit exams and minimum competency tests that must be passed to receive a regular high school diploma (Bishop, 1998).

There is debate regarding the theory of action behind the expectation that CBEEEs will raise teacher standards and student effort and achievement above the levels that are seen when diplomas are based on seat time and college admissions on teacher grades and aptitude tests (Bishop, 1998). Proponents argue that in order to compete in a global economy, students need to achieve at higher levels; that high school diplomas in the United States have lost value as a guarantor of literacy, numeracy, and competence; the expansion of CBEEEs in schools for all students will strengthen incentives to take rigorous courses; and that CBEEEs when accompanied by teacher grades create a system where learning is measured more validly (Costrell, 2001; Bishop, J., 2005; Bishop, J., Mane, Bishop, M., Moriarty, Murnane, & Steinberg, 2001). Opponents of external exams argue that student's intrinsic motivation to learn is weakened by focusing student attention on extrinsic reward for learning (Madaus, 1991) and that these systems will increase high school dropout rates, especially for racial and ethnic minorities and economically disadvantaged students (Jacob, 2001; Jimerson, 2010).

CBEEEs are utilized in many countries, including Australia, Denmark, England, Scotland, Finland, France, Ireland, the Netherlands, and in many parts of Canada and Germany. Researchers have examined the association between CBEEEs as exit tests and student achievement by comparing performance on international assessments between countries with and without high school exit exams and found favorable results, such as generally higher student performance in math and science in countries that utilized a CBEEE (Bishop, 1998; Fuchs & Woessmann, 2007). The research literature identifies some potential issues related to these studies, such as the possibility that unobserved country-level differences might explain performance results. For example, many countries have tracked secondary systems that direct students into very different high schools depending on middle school performance (Jimerson, 2010). Additionally, most European countries have universal early care and education programs that are available year round, from early in the morning until late in the evening, with age 0-3 care provided by the health and welfare system (Trowbridge, 2005).

Privatization of Public Schools as an Education Reform

Privatization of public schools in recent years has been argued by many political conservatives and within the business community in particular to be a tool for effective means of increasing competition, improving educational achievement, and addressing the decline in the standard of living facing many Americans today (Brown & Hunter, 1995). The idea behind privatization of public schools is that market-driven competition is better than public-driven

21

competition (Brown, 1995). In addition to the idea of market incentives, public school privatization refers to specific concepts such as school choice, charter schools, school vouchers, and the contracting out of public school operations to a private vendor (Brown, 1997). While there is no empirical evidence that the privatization of instruction through expanded school choice, charter schools, or voucher programs have produced results (Boyd, 2007; Brown, 1997), privatization remains a popular reform approach. A hotly contested topic, many opponents of privatization raise concerns regarding the potential loss of jobs and control of decision as a result of contracting out services (Hunter, 1995). Others point out that hiring better teachers, restricting within school tracking, and decreasing the number of families living in poverty are more effective ways to improve education (Brown & Hunter, 1995). Implications for MOWR relative to privatization include the use of MOWR as a model of choice by schools, as well as the use of Board Examination Systems, which are purchased from nonprofit providers.

Education Policy and Reform Implementation

Studies on educational change and policy effectiveness have long shown that the method, type, and pace of implementation influence the outcome of a promising practice (Desimone, 2002). While there is considerable agreement in the field that education policy and reform implementation is complex and that what works in one setting may not in another (Berman & McLaughlin, 1987; Datnow, Hubbard, & Mehan, 2002; Honig, 2006), studies over many years have

led to the identification of factors that influence the implementation of education reform. However, debate still remains around the evaluation of education policy and reform implementation and what constitutes "success."

Education policy implementation studies. For many years education policy implementation research and practice has focused on what gets implemented and what works (Honig, 2006). However, increasingly, education policy implementation research is revisiting the concept of what works and is more closely examining the complexity of implementation in an effort to better understand the conditions under which certain interventions work. A number of recent studies have identified the education environment as complex and, therefore, education policy implementation as complex (Honig, 2006). In addition to being complex, the education policy implementation process is described as powerful and multifaceted. There are disconnections up and down the system (McLaughlin, 2006) and implementation itself is seen as a process of negotiation that is reciprocal and not unidirectional (Datnow, 2006).

Through these studies, researchers make a compelling case for implementation research that strives to "reveal the policies, people, and places that shape how implementation unfolds and provide robust, grounded explanations for how interactions among them help to explain implementation outcomes" (Honig, 2006, p. 2). The critical implementation question is not simply what works, but what is implementable and what works for whom, where, when, and why (Honig, 2006).

Education reform implementation studies. Early studies on school reform changed the way many researchers and practitioners viewed implementation. The RAND Change Agent study (Berman & McLaughlin, 1978) was one of the first studies to introduce the implementation perspective on educational change. The study examined 293 federally funded programs in 18 states, and focused on three stages of the change process: initiation, implementation, and incorporation. The implementation process was described as the stage in which both the proposed change and the school are changed in a process of "mutual adaptation." The study found that what a project was mattered less than how a project was implemented in terms of implementation success and continuation, and that local factors impacted project outcomes, much more so than federal program guidelines or project methods.

The RAND Change Agent study identified a number of key factors necessary for successful implementation of projects. These included planning for adapting a change to the local setting, teacher and staff training, a critical mass of teachers to support and motivate each other, teacher participation in decision making and adaptation of change to the local setting, a receptive organizational climate, active support of the principal, classroom consultation and advise from resource personnel, and the scope of the change (Berman & McLaughlin, 1978). The RAND Change Agent study influenced the ways people thought about affecting planned change in education.

In revisiting the RAND Change Agent study years later, McLaughlin (1990), found that some findings held true while others needed to be revised. Findings that remained relevant included the idea that implementation dominates outcomes, that policy cannot mandate what matters, and that local variability is the rule and uniformity is the exception. McLaughlin (1990) found that the initial study placed too much emphasis on the importance of teachers' initial motivation and underestimated the role of external agents and their ability to promote "positive change in local practices" (p. 14).

Beginning in the 1990's, comprehensive school reform (CSR) became a popular approach to school improvement as many schools across the nation implemented externally developed design-based reform models. The CSR model focused on improving entire schools, not just particular populations of students, or particular subjects or instructional methods (Desimone, 2002). Established in 1991 as a private, nonprofit organization, New American Schools (NAS) led to the development of whole-school reform designs coupled with design-based assistance for schools to implement the designs (Berends, Bodilly, & Kirby, 2002). The 1997 Comprehensive School Reform Demonstration Act (CSRD) built on the work of NAS. The legislation outlined criteria for CSR models and provided a list of 17 CSR models available to schools, including the Accelerated Schools Project, America's Choice, Coalition of Essential Schools, High Schools That Work, Success for All, and Talent Development High School. Federal dollars were available to support schools to develop and adopt school-wide

reforms. By 2000, it was reported that more than 1,500 schools were using more than 380 different CSR models (Desimone, 2002). A number of CSR studies focus on adoption and implementation, and particularly the extent to which each program component is used. Studies consistently indicate that the quality of the CSR implementation matters in terms of program effects (Berman & McLaughlin, 1978; Datnow, Borman, & Stringfield, 2000) and that the implementation of CSR models at local schools sites is challenging (Berends, Bodilly, & Kirby, 2002; Desimone, 2002).

Research led by RAND on the level of implementation of NAS whole-school models found that within two years of implementation only half of the sites studied were implementing at a level that met expectations of NAS and the design teams; there was evidence of within-school variance in the level of implementation; and differences existed in implementation by region, schools, and by design (Berends, Bodilly, & Kirby, 2002). Variation in the implementation of CSR models within and between schools was further supported by a study conducted by Muncey and McQuillan (1996) that examined school sites implementing the Coalition of Essential School model.

Some CSR implementation studies have focused on how individual program designs affect implementation outcomes. In a multi-year study of three of the most widely utilized CSR models, Rowan and Miller (2007) found that programmed approaches to instructional practices are more likely than adaptive approaches to produce implementation of new instructional practices in schools.

Their study suggests that increased standardization and instructional guidance are key elements of a programmed approach. Other CSR studies examining the implementation of the same externally developed, highly prescribed CSR model have shown variation of effects across schools. Such studies suggest program outcomes are likely related, at least in part, to variation in implementation (Datnow, Borman, & Stringfield, 2000).

Factors That Influence Education Reform Implementation

The research on education policy and reform implementation has identified a number of factors shown to influence the implementation of education reform and, in particular, externally developed reform designs. These factors include the reform design and design-based assistance, the reform selection process, district contexts, school characteristics, and school capacity for undertaking a reform.

The reform design and design-based assistance. The research literature clearly identifies the design of the education reform itself as a factor in the implementation process. Reform designs range in specificity, but in general, they typically address professional development, instructional strategies, content and performance standards of assessments, and to some extent, organization and governance, and parent and community involvement. The specificity and complexity of the design, the way in which it is communicated, and the unique aspect of design-based assistance to schools as they implement the reforms are likely to impact how the reform is implemented and the extent to which the

reform is embedded over time (Berends, Bodilly, & Kirby, 2002; Kurki, Boyle, & Aladjem, 2006; Rowan & Miller, 2007).

Increasingly, many districts and schools across the United States rely on design teams to provide assistance in education reform. Design teams serve different functions and exist in a variety of forms. A design team may conceive of a reform design, develop an implementation strategy, develop materials to accompany the reform, and/or provide training support to schools in the form of professional development or consulting (Berends, Bodilly, & Kirby, 2002; Datnow, Hubbard, & Mehan, 2002; Kurki, Boyle, & Aladjem, 2006). Design teams are shown to be a factor in implementation. The process of support and flexibility on the part of the design team and the district can help schools adapt models to local contextual needs, which is shown to increase teacher buy-in and the possibility that the implementation of the reform will result in educational change.

Decisions that maximize capacity and support for the reform as envisioned include what is emphasized in the reform, the level of complexity and the changes expected, the way in which the design team engages teachers and administrators expected to implement the program, the quality of the professional development provided, and ongoing implementation support (Berends, Bodilly, & Kirby, 2002; Datnow & Stringfield, 2000; Datnow, Hubbard, & Mehan, 2002; Datnow, Lasky, Stringfield, & Teddlie, 2006; Supovitz & Weinbaum, 2008; Turnbull, 2002).

In order to maximize impact, the research literature suggests that design teams should emphasize high priority elements early in the roll out of the reform, be as specific as possible in directions to schools, understand how networks in schools operate, and select schools that have the potential to take reforms seriously and see it as a potential solution to an identified problem (Berends, Bodilly, & Kirby, 2002; Supovitz & Weinbaum, 2008). Studies indicate that higher levels of implementation are associated with design teams that have a stable team with the capacity to serve schools and teachers, effectively market to districts and gain resources needed to support the design, and effectively communicate their designs to schools.

Selection process. How schools go about adopting a reform design is of importance. Schools typically have more success in implementing and sustaining reforms if the selection process involves and is supported by teachers (Desimone, 2002), the reforms selected are well matched to the schools' needs, interests, and cultures, and the reforms are seen by the schools themselves as a potential solution to a clearly defined and generally agreed-upon problem (Berends, Bodilly, & Kirby, 2002; Datnow & Stringfield, 2000; McLaughlin, 1990; Stollar, Poth, & Curtis, 2006; Supovitz & Weinbaum, 2008). However, there are often other competing factors that influence adoption of a reform. These factors include policy and political decisions at a state level, a lack of time for locating and examining options, or pressure to adopt a reform because there is funding

available or because an administrator is in favor of a reform (Datnow, 2000;

Datnow, Lasky, Stringfield, & Teddlie, 2006).

District context. The research literature identifies districts as important

midlevel policy actors in the shaping of implementation of reform efforts

(Datnow, 2006; Datnow & Stringfield, 2000; Supovitz & Weinbaum, 2008).

Types of district support found to be important in implementing comprehensive

education reform include funding; structural changes; reform-specific staff

support; effort to build reform expertise at the school level; monitoring of the

reform use at the school level; and providing for flexibility in allowing schools to

rethink the adoption of new curriculum, instructional practices, and the related

professional development (Berends, Bodilly, & Kirby, 2002; Desimone, 2002;

Supovitz & Weinbaum, 2008).

School characteristics. Local context plays an important role in the

implementation of education reform. In general, studies have shown reform

implementation falters when the adoption of the reform was not preceded by

careful consideration of each school's culture or specific needs, or when educators

at the local school site did not participate in the decisions to adopt a particular

reform (Datnow, 2000; Datnow & Stringfield, 2000). Characteristics of schools

are also likely to influence the adoption phase of comprehensive education reform

designs such as the school size, the school level (elementary, middle, and high

school), and the minority and socioeconomic composition of the school (Berends,

Bodilly, & Kirby, 2002). Studies have shown that high-poverty schools may lack

resources or the infrastructure needed to implement whole-school reform, and that larger schools and high schools are more likely to resist organizational change (Berends, Bodilly, & Kirby, 2002).

School capacity to undertake a reform. The literature indicates that local will and capacity matter significantly to policy outcomes. Schools that have a history of successfully implementing change are more likely to be successful in implementing a comprehensive school reform design. At the same time, a school that is implementing numerous change initiatives at once is at greater risk of not being successful (Berends, Bodilly, & Kirby, 2002). In regard to leadership, studies continue to demonstrate that the instructional leadership of the principal influences change (Kurki, Boyle & Aladjem, 2006). This may be through direct leadership or through the principal's ability to facilitate the process of change through resource acquisition and the support of teachers (Berends, Bodilly, & Kirby, 2002; Fullan, 2007). Studies agree that while principals are influential in implementation, teachers remain at the core of educational change. In particular, teacher efficacy and teacher perceptions of students and their readiness to learn have been found to impact implementation of reform and educational change (Berends, Bodilly, & Kirby, 2002; Fullan, 2007; Philippou, 2010).

In the past, researchers often viewed school capacity as a set of fixed resources. Today, it is more likely that researchers identify capacity as including a variety of supports whose value depends on local context (McLaughlin, 1990). The importance of resources varies depending on different factors, including

"what people already know and do, the historical patterns of opportunity and particular jurisdictions, and the stakes associated with implementation outcomes" (Honig, 2006, p. 19). For example, while it is often beneficial, it is not an absolute that strong leadership or increased funding is needed for implementation in any one site.

Other factors. While district and school context, school capacity, the reform selection process, the reform design and design-based assistance, and the role of design team are commonly identified as factors that influence implementation, there are other factors that may also contribute. Such factors include the policy environment at the federal and/or state levels; testing and accountability; and the larger community context, including the role of school boards (Berends, Bodilly, & Kirby, 2002; Fullan, 2007).

Evaluating Policy and Education Reform Implementation

There are many questions around what constitutes "successful implementation" and how implementation should be evaluated. There is disagreement as to whether or not success means fidelity to policymakers' intent and specific directions, or if it includes other unintended benefits that may result from the implementers' actions. Fullan (2007) states that the implementation of any new education program or policy involves three parts: (1) the possible use of new or revised materials, (2) the possible use of new teaching approaches, and (3) the possible alteration of beliefs (p. 30). The idea of change involving multiple facets is further supported by Mitra (2001) in her research findings that changes in

belief and understanding are essential to achieving implementation success, or long lasting reform.

In regard to the evaluation of implementation, there is difference in thought as to whether success should be measured by the extent to which implementers achieved the desired changes or whether process measures should also be considered (McLaughlin, 2006). In recent implementation studies, researchers make the case that in addition to what happens as a result of project activities, important implementation outcomes involve the ability of individuals and larger system actors to learn new ideas and build capacity to sustain, extend, and embed a successful initiative (Honig, 2006; McLaughlin, 2006).

Ever more, studies evaluating implementation of education reform find that variation is common, and often positive. Recent literature suggests that when policies are administratively or technically complex variation is more likely (Honig, 2006; McLaughlin, 2006), and that this variation is not necessarily a problem. Rather, it can signal that education policy and reform is being implemented in a way that best meets local needs (Datnow & Stringfield, 2000; McLaughlin, 1990). The literature highlights the fact that schools differently interpret how reforms should be enacted, they emphasize different aspects or components of the reform, and they progress at different rates.

Educational Change

Similar to the research literature on the implementation of education policy and reform, the literature on educational change consistently points to the

complexity of the process. "Intrinsic dilemmas in the change process, coupled with the intractability of some factors, the uniqueness of individual settings, and variations in local capacity, make successful change a highly complex and subtle social process" (Fullan, 2007, p. 86). The context changes and therefore the problems themselves change, making it difficult to identify solutions (Fullan, 2007; McLaughlin, 2006). The literature on educational change moves beyond a discussion of complexity and provides insights into the actual process of change, including factors that influence it as well as reasons why it commonly fails. Additionally, the literature suggests strategies for achieving educational change that can be employed by schools and others external to K-12 to facilitate and achieve change.

The change process. While there are no hard and fast rules regarding the process of change, many research studies provide guidelines to help make sense of planning, implementation, and monitoring educational change (Fullan, 2007). Models of educational change efforts and policy implementation typically are formulated in terms of a three-phase process: adoption or initiation (getting started), implementation (carrying out the change or reform), and continuation (Fullan, 2007; McLaughlin, 2006). The process leading up to and including the decision to proceed with implementation is described as adoption and may take place over years. Implementation often implicates all of the stages at the same time, and for most changes, takes two or more years. "On the ground, implementation involves interplay of change and continuity, getting started and

going deeper, learning and relearning as midcourse corrections are made"
(McLaughlin, 2006, p. 217). While the change process is often described in
stages or as phases, experience shows that the educational change and policy
implementation process is neither linear nor is it a set of discrete phases. New
actors engage, demands shift, resources change, and competing pressures redirect
attention (Fullan, 2007; McLaughlin, 2006.) As such, the line between
implementation and continuation is somewhat blurred (Fullan, 2007).

Factors that influence the change process. The research literature
identifies a number of factors shown to influence the phases of change.

Adoption. In the adoption phases, school context and capacity are critical
factors. Adoption is enhanced when schools choose reforms with a clear sense of
the school's strengths and needs, and when principals are well informed and
capable of serving as potential leaders of the education reform (Fullan, 2007). To
facilitate adoption, teachers cannot simply be forced by school leadership to
initiate an adoption. Instead, teachers need to be assisted and encouraged to
identify school level problems and to consider how the various reforms may help
address these problems (Fullan, 2007). Schools benefit from having substantial
time to gain accurate information about reforms and to make adoption decisions
(Datnow, 2000; Fullan, 2007).

Implementation. Fullan (2007) identifies a number of factors affecting
the implementation phase of change. These factors include basic characteristics
of the reform or innovation itself, local characteristics, and external factors.

35

Characteristics of the reform or innovation that have been shown in studies to influence implementation are the need or fit between a new program and school needs; clarity about the goals and means of the change; the complexity, or the difficulty and extent of the change required; and finally, the quality and practicality of the reform (Fullan, 2007). Similar to the adoption phase, school context and capacity are critical factors to implementation. This includes the school district, the school board and community, the principal, and the teachers. Of those engaged at the school level, the principal is the individual best positioned to address organizational conditions that can facilitate the implementation of change, such as shared goals, collaborative climates, and ways in which the change process may be monitored (Fullan, 2007).

However, educational change in many ways ultimately depends on teachers and, in particular, what they do and what they think (Fullan, 2007). Both individual and collective teacher characteristics have been shown in studies to influence implementation. At the individual level, teacher efficacy may affect a teacher's decision to take action and persist in the implementation of educational change (Fullan, 2007; Philippou, 2010). A teacher's psychological state may be fixed or changeable, often depending on the person and the conditions, such as the culture or climate of the school (Fullan, 2007). At the collective level, the "quality of working relationships among teachers is strongly related to implementation" (Fullan, 2007, p. 97).

Why school change fails. The research literature identifies many reasons why change efforts may fail. At the school leadership level, principals face a number of challenges as they try to get agents to enact desired change. These challenges can include resistance on moral grounds, risk aversion, bounded rationality, and/or inability by principals to monitor the change agents (Miller, 2007). Additionally, at the school level, there may be a lack of a visionary leader, a mismatch between the innovation and the culture of the school, or lack of concern about the problem by the school personnel (Stollar, Poth, & Curtis, 2006). Often, schools are faced with managing multiple policies at the same time, which may conflict (Honig, 2006) and cause change to fail. In order for an education reform to succeed, it must be ongoing and part of the system; it cannot be the focus by itself, which often occurs in change efforts (Honig, 2006; McLaughlin, 1990). Additionally, implementation may fail when consultation is provided by an expert or third party entity that leaves the system too soon in the implementation process (Stollar, Poth, & Curtis, 2006).

Strategies for achieving educational change. The research literature on educational change suggests there are strategies that can be employed in an effort to facilitate and achieve educational change. Fullan (2007) identifies ten key ideas or strategies for focusing efforts to achieve greater success on a larger scale. They are: define closing the gap as the overarching goal; attend initially to the three basics (literary, numeracy, and student well-being), be driven by tapping into people's dignity and sense of respect; ensure the best people are working on

37

the problem; recognize that all successful strategies are socially based and action oriented, involving change by doing rather than change by elaborate planning; assume that lack of capacity is the initial problem and then work on it continuously; stay the course through continuity of good direction by leveraging leadership; build internal capacity linked to external accountability; establish conditions for the evolution of positive pressure; and use the previous nine strategies to build public confidence. For Fullan, these strategies are not a menu of options; all need to be attended to in an effort to facilitate change. Fullan (2007) also suggests that while it is important to have an overall knowledge of the change process, a detailed plan is not needed. Planning itself is more about reflective doing than it is about pre-action planning, as it is through action that the clarification process will occur, leading to the ability to make change successful.

Another way to examine how change can happen is to consider a strategy of small wins. Weick (1984) describes a strategy of recasting large social problems into smaller problems that can be identified as opportunities to produce viable results. "Small wins are like miniature experiments that test implicit theories about resistance and opportunity and uncover both resources and barriers that were invisible before the situation was stirred up" (p. 44). These small wins do not happen in a linear form, but they do move the same general direction toward the overall change desired. They provide information that facilitates learning and adaptation.

The concept of change and implementation, specifically, is a highly contingent and situated process (Honig, 2006). To achieve change through implementation, change agents or innovators need to be able to alter their realities of change through exchange with implementers. Rather than focus on their innovations or reforms, they need to focus on understanding how the larger culture, structures, and norms will react to their efforts (Fullan, 2007).

Intermediary Organizations

The research literature on education policy and reform implementation and educational change identifies a number of actors engaged in the process of change, many of whom are engaged as actors within the education system itself, such as school district leaders, principals, and teachers. More and more, those who are often described as nonsystem actors, third party participants, change facilitators, or whom will be referred to going forward in this study as intermediary organizations, are prominent in education policy implementation and reform. However, intermediary organizations have primarily served in the background of implementation studies rather than the foreground, and therefore there is little research on them.

Intermediary organizations may be private or public. Honig (2004) utilizes organizational theory to distinguish intermediary organizations as distinct from other organizational populations, defining intermediary organizations as those that occupy the space in between at least two other parties, operate to "mediate or to manage change" in both parties, and provide value beyond what

the two parties would be able to do by themselves (p. 67). Honig (2004) finds

that intermediaries vary along five dimensions: (1) they operate between various

levels of government; (2) composition of organization membership varies; (3)

location varies, meaning they may be based within the geographic area in which

they work or they may be based outside; (4) the scope of work varies; and (5) they

vary in terms of their funding sources.

Intermediaries often function to provide resources. These resources can

take different forms and may include providing knowledge of sites and policy

systems, providing social or political ties to sites and policy systems, and/or

serving as an administrative infrastructure. Often these resources are necessary

for implementation of collaborative education policy, but traditionally unavailable

in the district central office or sites (Honig, 2004). Intermediaries typically

comprise what McLaughlin (2006) describes as a "strategic 'middle,' operating

between the top and bottom of the implementing system" (p. 220). They "fill

gaps in the policy system by virtue of their flexibility, expanded capacity, and

ability to manage from the middle. They provide a structure for diverse interests

and organizations to join together to promote consistent standards of quality

across sectors, to provide missing resources, and to leverage existing ones"

(McLaughlin, 2006, p. 222). Recognizing that state policy travels across multiple

communities, boundary brokers, such as intermediary organizations, can play an

important role in this work (Coburn & Stein, 2006). In fact, studies have shown

that nonsystem actors are a "mediating link" between instructional policy and classroom practice (Coburn, 2005).

Theoretical Framework

The research literature on education policy implementation and educational change informs the context of this study and provides an underpinning theoretical framework for understanding education policy and reform implementation as a co-constructed process.

Early research on school reform tended to focus on school level issues and did not really address key dimensions of context that extended beyond the school, such as governmental, community, or district context. As a result, the research often missed identifying the ways in which the contexts interact to produce sometimes-different results. In some cases, past research has focused on implementation barriers. This too is different than revealing how schools, districts, and states may interact in particular ways to enable implementation (Datnow, 2006). Many other studies have examined implementation as a unidirectional, technical-rational process, or as organizational development models (Supovitz & Weinbaum, 2008). However, like the studies that focused on school level issues or implementation barriers alone, these models do not fully help us to understand the complexities of implementation.

More recent studies have examined education policy and reform implementation as a system-wide activity, acknowledging that interrelations among social contexts and various policy levels and actors have differing degrees

of influence, and varying levels of connection with each other (Datnow, 2006; Datnow, Hubbard, & Mehan, 2002). By looking at education reform through an adaptation or co-construction theoretical lens, one is able to see that the adaptation of the education policy and reform occurs through a complex interaction among structural constraints, the culture of the school, and personal agency (or people's actions) in each school setting. Essentially, education policy and education reforms are "co-constructed," or adapted at a local level by local educators for use in their own school. The application of co-construction theory allows for a better understanding of the complex and messy process of school reform (Datnow, 2006; Datnow, Hubbard, & Mehan, 2002).

The co-construction framework has a number of specific dimensions, including the idea of a relational sense of context. This means people's actions cannot be understood apart from the setting in which the actions are located, and in turn, the setting cannot be understood without understanding the actions of the people within it (Datnow, 2006). Educators' actions in schools shape and are shaped by actions simultaneously occurring in diverse contexts, including the classroom, school, district, reform design team, state, and federal levels (Datnow, 2006). The process of adaptation occurs at multiple levels of the system and stems from different sources, social interactions, and organizational structures and routines (Supovitz & Weinbaum, 2008). The contexts are important throughout the social system because they are interconnected (Datnow, 2006), and this relational sense of context builds upon and goes beyond the idea of an embedded

42

sense of context. The difference is that the relational sense of context does not privilege one context over another. Instead, "it highlights relationships among contexts as a key focus for analysis" (Datnow, 2006, p. 108). Furthermore, by examining reform implementation through co-construction, or what Supovitz (2008) describes as an iterative refraction, we can try to better understand how reforms are changed as they enter into the dynamic environments of schools and school systems, and better predict the implications. This provides an opportunity to be better able to hold those things constant that are integral to a reform, while allowing for, and even encouraging modifications or adaptations to those elements that are not essential to the reform, but important to local sites (Supovitz & Weinbaum, 2008).

Conclusion

The literature reviewed in this chapter on college readiness and education reform provides context for the MOWR initiative. A review of the literature on education policy and reform implementation, comprehensive school change, and the role of intermediary organizations as actors and influencers in education reform influences the innovation in this study designed to enhance the adoption and implementation of the MOWR reform policy in Arizona schools. The theory of co-construction was discussed and identified as the theoretical framework for understanding the education policy and reform implementation process. Chapter 3 describes in detail the innovation in this study, including the justification of the innovation, the underlying conceptual framework, and the innovation design.

Chapter 3

INNOVATION

The innovation in this study was CFA's active and intentional role as an intermediary organization in the implementation of MOWR, a position and role assumed for the specific purpose of enhancing the adoption and implementation of MOWR at a local level in Arizona schools. Consistent with the definition of intermediary organizations in the policy implementation and education reform research literature, CFA operated between Arizona policymakers and implementers, referred to in this study as early adopter schools, to affect and co-manage change at both levels (Coburn, 2005; Honig, 2004; McLaughlin, 2006). This role was in alignment with Arizona policy that requires schools interested in implementing a MOWR strategy to collaborate with CFA, pursuant to Arizona State Board of Education rules and Arizona Revised Statutes Title 15, Chapter 7, Article 6. To guide CFA's work, an overall plan and design of actions to facilitate implementation of MOWR was developed and then employed by CFA. The innovation is further explained within this chapter, including its justification, the conceptual framework underlying the innovation, and the procedures.

Justification of the Innovation

The innovation in this study was grounded in the premise that implementation of the MOWR reform involved multiple systems and actors. The implementation process of MOWR is not linear, nor is it top-down or restricted to a group of people at the bottom of the policy chain (Datnow, 2006; Fullan, 2007;

44

Honig, 2006; McLaughlin, 2006). Appendix A provides a complete description

of the system and actor roles relative to the implementation of MOWR. Figure 1

shows the arrows of change travel in multiple directions among active participants

across all systems and influence the implementation of the MOWR reform,

making the reform process flexible. The straight lines indicate direct involvement

or influence in the implementation process, whereas a dotted line indicates a

relationship that is less direct or influential. The connection between what

happens in schools and what happens in the broader contextual spheres, such as at

the state level, is quite loose. Because of CFA's positionality as an intermediary

organization, situated at the center of the system-wide activity, CFA can assist in

making the transition of the goals and components of the MOWR policy from

state to district and school level (Datnow, 2006). This position within the system-

wide activity also enables CFA to take a more holistic approach to understanding

how MOWR is implemented by examining the entire process and by treating

deviations as potentially useful innovations rather than as limitations (Supovitz,

2008).
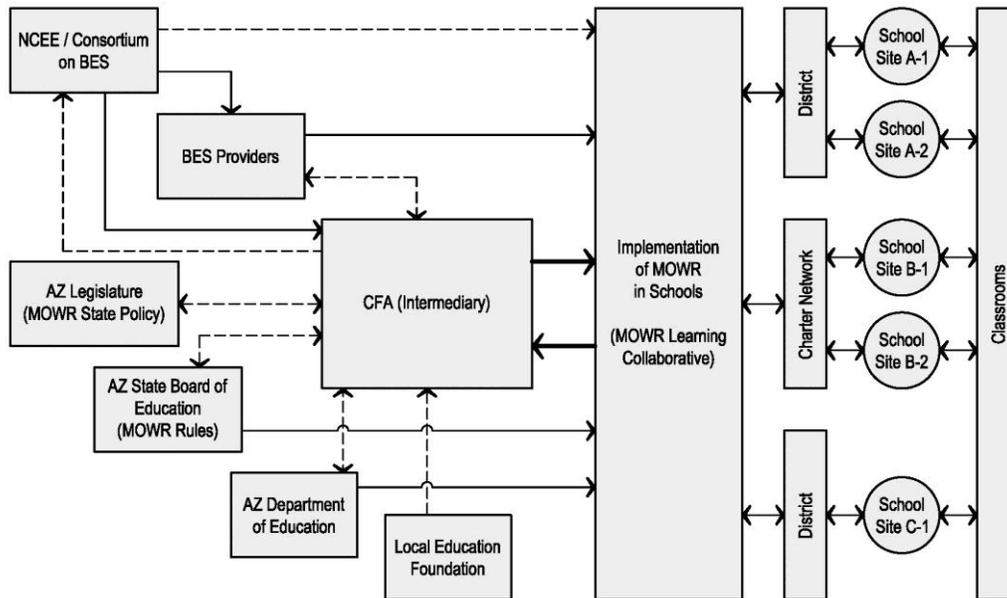
Figure 1. Implementation of MOWR as a system-wide activity, with CFA as an intermediary organization.

Conceptual Framework

The overarching conceptual framework underlying this study is illustrated in Figure 2. Elements of the figure are adapted from the New American Schools' (NAS) conceptual framework for analyzing implementation progress and performance (Berends, Bodilly, & Kirby, 2002). The theory of action, represented in the center of the figure, is student educational outcomes will improve by implementing the complete MOWR reform provided for in Arizona State Statute. The complete MOWR reform is reflected in the figure, and includes internationally benchmarked courses aligned to national and international standards; course designs captured in a detailed syllabus; high quality exams derived from the curriculum with multiple assessment methods; quality teacher training tied to the course syllabus; student academic supports, such as summer

46

bridge programs or targeted literacy interventions; the option to obtain a performance-based high school diploma aligned to minimum college readiness standards; and the availability of multiple pathways or education options within and beyond the high school setting. The anticipated outcomes, also shown in the model, are that all students in schools implementing MOWR will see academic gains as measured on various district and state scores, and they will graduate at significantly higher rates of college readiness, defined as not needing remediation in the first credit-bearing course in math and English in open admissions postsecondary education institutions.

Drawing on the research literature, it is clear educational change is complex and that a number of interrelated factors will influence the implementation and outcomes of MOWR at the local level in Arizona schools. These factors are shown in the boxes at the top and bottom of the diagram. They include school context, school capacity, district context, selection process, the design of the BES and the BES Design-Based assistance, as well as other factors such as federal and state context. CFA is identified as an intermediary organization and is included in the figure as one of the potential influencing factors in the implementation of MOWR.

Interrelated factors affecting implementation and outcomes of MOWR			
District Contexts • Nature of the relationship with the high school • Alignment of policies, practices and politics with MOWR • Human and fiscal capacity and support • Monitoring of MOWR at the high school level • Providing for flexibility at the high school level	**School Characteristics** • Climate • Minority and socioeconomic composition • Size • Level (Elem, Middle, H.S.) • Type (Unified / Union / District / Charter)	**School Capacity to Undertake Reform** • Commitment to change history of success in implementing change • Other reforms being attempted • Principal leadership • Teaching capability and experience • Teacher perceptions of students and readiness to learn • Working relationships among teachers in implementation of change • Prior achievement of students • Student mobility	**Reform Selection Process** • Selection process involves and is supported by teachers • Match of reform to school's needs, interests, and culture • Reform seen by the school as a potential solution to an agreed-upon problem

MOWR Theory of Action

MOWR Policy (Arizona State Statute)

Coherent Design Implementation of MOWR
• Internationally benchmarked courses aligned to national standards for all students (in grades 9 and 10)
• Course designs captured in detailed syllabus
• High quality exams derived from the curriculum using multiple assessment methods
• Quality teacher training matched to the course syllabi (professional development)
• Student academic supports
• Performance-based diploma aligned to minimum college-readiness standards
• Availability of multiple pathways to postsecondary education within and beyond high school (for all students)

Anticipated Student Outcomes
• Improved academic achievement by all students
• Students graduating from high school college-ready (without needing remediation at open-admissions higher education institutions)

BES Design and BES Design-Based Assistance • Specificity / complexity of BES • Clear and consistent communication of the design • Support and flexibility by the design team • Way in which teachers and administrators are engaged • On-going assistance provided (materials, time to plan and develop the program, professional development)	**CFA (Intermediary)** • Positionality • Assistance provided • Flexibility • Knowledge of MOWR model • Awareness of activities, innovations, and processes at each site	**Other Factors** • Policy environment at federal and/or state levels • Testing and accountability • Community context • National partner / consortium on BES • Local education foundation support

Interrelated factors affecting implementation and outcomes of MOWR

Figure 2. Overarching conceptual framework of the MOWR implementation process.

A concerns-based approach was employed by CFA as a conceptual framework for thinking about, planning for, monitoring, and facilitating change (Hall & Hord, 1987). Underlying this framework are several assumptions. These include: (1) change is a process, not an event; (2) there is a personal side to change that must be understood; (3) it is possible to anticipate much that will occur during a change process; (4) in order for schools to change or improve, teachers and others must change first; and (5) change facilitation is a shared

48

responsibility (Hall & Hord, 1987). A critical component of the concerns-based approach is the use of diagnostic data that change facilitators can then utilize to identify and provide interventions or actions intended to affect and facilitate implementation of a new program of practice being introduced (Hall & Hord, 1987). Consistent with action research, the change facilitator consistently engages in a probing-adapting-intervening-probing-adapting-intervening process and considers change from a systemic perspective (Hall & Hord, 1987).

The Innovation Procedure

An implementation "game plan" was developed and applied within this study that included specific intervention components identified in the research literature to influence the change process. A "game plan" is "a map of all the actions taken to influence adoption, implementation, and use of a particular innovation in a given setting" (Hall & Hord, 1987, p. 190). The game plan components in this study included: (1) developing supportive organizational arrangements; (2) training; (3) consultation and reinforcement; and (4) monitoring and evaluation (Hall & Hord, 1987). For each game plan component, strategy and tactical level interventions were identified. Strategy level interventions were designed to translate theory and assumptions at the game plan level into concrete actions to be taken. Tactical level interventions were designed to operationalize strategies and were comprised of a set of interrelated small actions intentionally taken to affect attitudes toward or use of an innovation (Hall & Hord, 1987).

Guided by the research literature, CFA's implementation game plan was intended to enhance the implementation of MOWR at the local level, consistent with implementation co-construction theory (Datnow, 2006; Datnow, Hubbard, & Mehan, 1998; Datnow, Hubbard, & Mehan, 2002). The CFA game plan was also intended to assist CFA in understanding how implementation unfolds in order to better meet the immediate needs of early adopter schools and to inform future cycles of planning and implementation work. While the implementation game plan guided CFA's approach in working with schools, it was anticipated at the outset of the study that action decisions would be made that were a combination of valid knowledge, political considerations, on-the-spot-decisions, and intuition (Fullan, 2007). As a result of continuous planning and monitoring, the implementation game plan would likely be refined over the course of the study. Appendix B illustrates the implementation game plan and the related intervention strategies and tactics. The individual implementation game plan components and the related strategic and tactical interventions are discussed in greater detail below.

Game plan component 1: developing supportive organizational arrangements. Game Plan Component 1 was developing supportive organizational arrangements. This component described any actions taken to develop policies; manage staff; plan; fund; restructure roles; and provide space, materials, and resources to establish and maintain use of MOWR as an innovation at the school level (Hall & Hord, 1987). It covered logistical and planning

activities and included planning and decision-making about the change process, schedules, and people (Hall & Hord, 1987). The strategy level interventions identified by CFA for Game Plan Component 1 included the development of a MOWR Learning Collaborative, the development of a MOWR early adopter starter packet, MOWR School level design teams, and the development of a Memorandum of Understanding (MOU) between CFA and the early adopter schools.

  MOWR Learning Collaborative. CFA collaborated with early adopter MOWR schools and managed from the middle as they implemented the MOWR strategy in an effort to enhance implementation at the local level. To facilitate this process, CFA established the MOWR Learning Collaborative, a network comprised of the MOWR early adopter schools. CFA made the decision to establish the MOWR Learning Collaborative for several reasons. First, it created a structure conducive to collaborative planning whereby the schools were convened together by CFA for the purposes of problem setting, direction setting, and implementation through individual or joint actions (Margerum, 2002). CFA anticipated that this collaboration would likely contribute to increased capacity building at the site level, enhancing implementation. Second, it allowed CFA to monitor and be aware of activities, innovation, and alternative processes at each site. Monitoring provides accountability (Datnow, 2006) and by being aware of activities, innovations, and alternative processes, CFA can expand the knowledge base regarding what promotes or hinders implementation. Third, it provided a

vehicle through which CFA could emphasize key elements of the MOWR

strategy, assisting schools in prioritizing what CFA identified to be critical

components of the MOWR model (Berends, Bodilly, & Kirby, 2002; Datnow,

Hubbard, & Mehan, 2002; Supovitz, 2008). Fourth, the MOWR Learning

Collaborative enabled CFA to provide pragmatic solutions that can fill gaps at the

local level (Honig, 2004; McLaughlin, 2006).

   The MOWR Learning Collaborative was formally established by CFA in

April 2011 and is comprised of each of the school sites implementing MOWR.

The MOWR Learning Collaborative meets quarterly face-to-face and monthly

telephonically. Meetings initially were open to superintendents and school

principals, as well as to any other key staff members as identified by the school

principal. The intent is for the MOWR Learning Collaborative to continue to

meet over the course of the implementation of MOWR.

   For the purposes of this study, the MOWR Learning Collaborative met

April 2011 through January 2012. Each MOWR Learning Collaborative meeting

had a topic and agenda. (See Appendix C.) The topic and agenda was determined

by CFA based on input gathered from each of the partner schools, and was shared

by CFA in advance of meetings along with any materials or relevant data. The

MOWR Learning Collaborative participants had an opportunity to make

modifications to the agenda. Examples of meeting topics included: the core

components of the MOWR model, logistics relative to the BES providers and

offering BES courses to students in fall 2011, BES professional development

opportunities, teacher needs relative to MOWR, the identification and implementation of student academic supports, student advising, communication with parents and the larger community, and plans for continued implementation of MOWR in the 2012-2013 academic year.

CFA followed a discussion protocol to assist in facilitating the meetings. The protocol was intentionally structured to enable CFA to facilitate collaborative planning; monitor and be aware of activities, innovations, and alternative processes at each site; emphasize key elements of the MOWR strategy; allow for flexibility at the local level; and provide a vehicle through which CFA can identify needs and provide pragmatic solutions (Berends, Bodilly, & Kirby, 2002; Datnow, Hubbard, & Mehan, 2002; Honig, 2004; Margerum, 2002; McLaughlin, 2006; Supovitz, 2008). Following each MOWR Learning Collaborative meeting, CFA engaged in reflective action and a process of clarification (Fullan, 2007) by debriefing on the meetings, discussing next steps, and taking action as needed to continue to faciliate the change process. Examples of action that CFA took included meeting with schools, facilitating connections between the schools and the BES providers, identifying resources for the schools, or developing materials to support the schools. A brief electronic survey was sent to meeting participants following each meeting. Information collected from the survey was utilized by CFA to improve the Learning Collaborative format and to identify topics for discussion at future meetings based on suggestions made by the participants.

MOWR early adopter starter packet. In an effort to provide just in time support and pragmatic solutions to assist schools in the implementation of MOWR (Honig, 2004; McLaughlin, 2006), CFA developed a starter packet for each early adopter school. The packet included the following items: a document that provided an overview of MOWR and the core components of the model; a template for a letter that the schools needed to write and submit to CFA officially documenting their interest in participating as a MOWR school site, per Arizona State Board of Education rules; a MOWR planning and implementation guide developed by CFA with the NCEE Arizona engagement manager that each school was required to complete and submit to CFA, per Arizona State Board of Education rules; and a description of BES courses. CFA distributed the MOWR early adopter starter packet at the first MOWR Learning Collaborative meeting in April 2011.

MOWR school level design teams. In addition to the MOWR Learning Collaborative, CFA asked each early adopter school to establish a MOWR school level design team to be representative of local stakeholders involved in or potentially impacted by MOWR. A stakeholder is defined as one that has a stake in an enterprise or as one who is involved in or affected by a course of action (*Merriam-Webster's Collegiate Dictionary*, 2008). For the purpose of this study, stakeholders included school administration, teachers, and counselors. Schools were welcome to include other key stakeholders, including parents and students, business and industry representatives, and members of the higher education

54

community. CFA asked the schools to include individuals with diverse opinions regarding the MOWR reform, including those who may be considered resisters and whose opinions may be instructive to the change process (Fullan, 2007). At least one member of each MOWR school level design team was also a participant in the MOWR Learning Collaborative.

CFA worked directly with each early adopter school site to facilitate initial implementation of the MOWR model, beginning with the use of a BES with grade 9 students in 2011, and to plan for the full implementation of the MOWR model that is expected to occur over the course of a minimum of five years. For the purposes of this study, the development of the full implementation plan began, but was not completed within the timeline of this study. Consistent with co-construction theory (Datnow, Hubbard, & Mehan, 2002), the MOWR school level design team structure was intended to allow for flexibility at the local level so that schools and teachers, in particular, could find the MOWR reform workable in their schools and in their classrooms (Datnow, 2006; Fullan, 2007). The MOWR design team meetings also provided another way by which CFA could monitor and be aware of activities and processes taking place at each school site (Datnow, 2006), and provide pragmatic solutions that met the needs of individual schools (Honig, 2004; McLaughlin, 2006).

A minimum of two meetings with each MOWR school level design occurred between April 2011 and January 2012. CFA worked with the schools to collaboratively identify meeting days, times, and locations. When the design

teams were initially established, CFA worked with each school site to develop an agenda for the individual school's MOWR school level design team meeting. The agenda was shared with the MOWR school level design team by CFA in advance of meetings along with any materials or relevant data. The MOWR school level design team participants had an opportunity to make modifications to the agenda. By mid-fall 2011, some of the design teams were developing their own agendas independent of CFA.

Examples of items that were addressed in MOWR school level design team meetings were the elements of a full implementation plan; student academic achievement data; student interventions; teacher needs relative to the implementation of MOWR; and challenges school sites were facing. CFA facilitated the majority of the MOWR school level design team meetings. Each meeting included a discussion of next steps, with the goal of identifying tasks that needed to be completed by the school team or by CFA prior to the next meeting in order to facilitate the change process.

School site visits were conducted to coincide with the MOWR school level design team meetings. The site visit activities varied. They included meetings and conversations with administrators, groups of teachers, groups of counselors; observing classroom instruction; and observing professional development. A minimum of two site visits was conducted at each school site between April 2011 and January 2012. The need or opportunity for a site visit

was determined by CFA or by the school site. Site visits were also sometimes event driven, such as the delivery of BES professional development.

Memorandum of Understanding. CFA developed a Memorandum of Understanding (MOU) with each early adopter MOWR school. (See Appendix D.) The purpose of the MOU was to clearly articulate the way in which CFA and the schools would collaborate to facilitate implementation of MOWR, to identify elements of the MOWR model that early adopter schools would commit to implementing with fidelity, to provide an opportunity to emphasize high priority elements of the MOWR reform, and to provide clear and consistent communication (Berends, Bodilly, & Kirby, 2002). The executive director of CFA, the individual school superintendent or charter network leader, and the local district or charter governing board signed the MOU. CFA developed the MOU in spring 2011 and requested that early adopter schools review and sign them early in the fall 2012 term. All of the school sites submitted a signed MOU to CFA.

Game plan component 2: training. Game Plan Component 2 was training, defined as any actions taken to develop positive attitudes, knowledge, and skills in relation to the MOWR innovation through formal structured or planned activities (Hall & Hord, 1987). Training included formal organized training activities provided for teachers, administrators, or others involved somehow in the MOWR effort (Hall & Hord, 1987). The strategy level interventions for Game Plan Component 2 included formal BES training and

informal training conducted by CFA directly, or by other non BES individuals or organizations at the request of CFA.

  BES training. The BES providers delivered training and professional development for each school site. Formal BES training began in April 2011 and continued throughout the study. The amount of training delivered varied by provider, and by level of interest from each school site. Training was targeted at teachers by content area, although administrators were encouraged to attend as well. One BES provider also conducted formal training for individuals serving in the role of exam officer at each school site and conducted an information session specifically directed at school guidance counselors.

  Training conducted outside of the BES providers. CFA identified and in some instances delivered informal training in the form of planned presentations or activities intended to develop positive attitudes, knowledge, and skills in relation to the MOWR innovation. Informal training was designed to facilitate CFA's ability as an intermediary organization to emphasize key elements of the MOWR strategy and assist schools in prioritizing elements of the model (Berends, Bodilly, & Kirby, 2002; Datnow, Hubbard, & Mehan, 2002; Supovitz, 2008). Examples of informal training that occurred included statewide presentations on MOWR that school sites were invited to attend and sessions held during the face-to-face MOWR Learning Collaborative meetings on specific topics related to MOWR implementation such as utilizing the Professional Learning Community discussion protocol as a way for principals to identify and meet teacher needs.

Game plan component 3: consultation and reinforcement. Game Plan Component 3 was consultation and reinforcement, defined as the actions taken to encourage and to assist individuals in solving problems related to the implementation of MOWR (Hall & Hord, 1987). Consultation and reinforcement is usually problem-specific, targeted at an individual or at a small group, and often is typified by the informal sharing of tips (Hall & Hord, 1987). The strategy level interventions identified by CFA for Game Plan Component 3 included scheduled visits by CFA to meet with the MOWR school level design teams and being on call for site visits and consultation by the schools on an as-needed basis.

MOWR school level design teams. As already discussed in detail, CFA worked with early adopter schools to establish MOWR school level design teams. CFA met with each MOWR school level design team at least twice between April 2011 and January 2012. At each meeting, dedicated time was devoted in the agenda to answer questions that schools had, identify assistance they needed, and provide consultation.

CFA on call for site visits and consultation. As needed, schools contacted CFA or the NCEE Arizona engagement manager to request for consultation or site visits to the school. Requests for information or assistance also took place via phone and email during the course of the study.

Game plan component 4: monitoring and evaluation. Game Plan Component 4 was monitoring and evaluation, defined as actions taken to gather, analyze, or report data about the implementation and outcomes of MOWR (Hall

59

& Hord, 1987). Monitoring and evaluation includes formal and informal assessments, as well as analysis, interpretation, and feedback (Hall & Hord, 1987). The strategy level interventions identified by CFA for Game Plan Component 4 included the use of the MOWR planning and implementation guide by each school site and the collection of the initial draft of the completed implementation plan in late fall 2011, administering school level surveys and sharing the findings back with each school site, the use of the MOWR Learning Collaborative as a vehicle to gather and report data on the implementation of MOWR, and periodically participating in MOWR school level design teams and school site visits.

MOWR planning and implementation guide. In collaboration with the NCEE Arizona engagement manager, CFA developed a MOWR planning and implementation guide that each school received and was asked to complete and submit back to CFA, per Arizona State Board of Education rules. Developed as a tool to assist schools in their planning and implementation, the guide identified priority areas that needed to be addressed to facilitate implementation such as scheduling BES professional development for teachers, identifying and/or developing student supports, and communication with students and families. CFA utilized the MOWR planning and implementation guide as a way to monitor and evaluate individual school level progress in initial implementation. MOWR school level design teams were charged with completing the guide for their school site, and were encouraged to make modifications as needed. CFA monitored the

ongoing development of the guides, and often provided feedback to the teams. All schools were asked to submit their complete initial drafts to CFA in November 2011.

MOWR school surveys. CFA developed and administered a school survey to the administration, teacher leaders, and grade 9 teachers in each school site. A survey was administered in October 2011 and again in January 2012. While utilized as a data collection tool for this study, the survey also served as a tool for monitoring and evaluation. Following the analysis of the survey, each school principal received a summary of key findings related to participants' perspectives on implementation of MOWR at their own school site which included extent of implementation, school capacity for implementation, and overall buy-in and support for the model.

MOWR Learning Collaborative. Described in detail earlier in this chapter, the MOWR Learning Collaborative provided a way by which CFA could monitor and be aware of activities, innovations, and alternate processes at each school site relative to initial implementation of MOWR. A discussion protocol was utilized during each monthly meeting that encouraged each school site to share its current status and outcomes of early implementation, as well as to identify any challenges faced.

MOWR school level design teams and school site visits. Participation in MOWR school level design teams and school site visits enabled CFA to gather as well as to analyze and report out data back to the schools on the implementation

of MOWR. CFA took meeting notes during school level design team meetings and observational notes during site visits that enabled CFA to document the implementation taking place at each site. In particular, participation in school level design teams enabled CFA to communicate back to the schools observations made which often spurred conversation regarding next steps in implementation and/or the exploration of a different approach.

Conclusion

CFA purposefully worked with early adopter schools as an intermediary organization to facilitate implementation of MOWR at the local level in Arizona. Described in detail within this chapter, CFA developed and employed a game plan that mapped out CFA actions to influence the implementation and use of MOWR. Specifically, this involved developing supportive organizational arrangements, training, consultation and reinforcement, and monitoring and evaluation. Chapter 4 describes the research methodology utilized for the study.

Chapter 4

RESEARCH METHODOLOGY

In this chapter, the research methodology utilized for the study is presented. Given the scope of the overall MOWR initiative, the planned phases of implementation are described and the phase that is the focus of this study is specifically identified. The study participants, instrumentation and data collection procedures, and methods of analysis are described. The assumptions and limitations of the study, and my own role as a researcher and participant are presented.

Research Questions

The overarching question that drove this study is: What promotes or hinders the implementation of MOWR at the local level in multiple school sites across Arizona? Three sub questions guided the study:

1. To what extent and in what ways is MOWR being implemented at the local school level?

2. What are the factors that appear to enhance or impede implementation of MOWR at the local school level?

3. As an intermediary, in what ways does CFA influence the implementation process of MOWR at the local school level?

Research Design

This study was an explanatory nonexperimental multiple case study (Gay, Mills, & Airasian, 2009). A multiple case study method was utilized to analyze

how the phenomena of the MOWR implementation process works in schools

(Gay, Mills, & Airasian, 2009; Johnson, 2001; Yin, 2003) from the perspective of

the people most closely involved in the process at the school level. This method

allowed for thorough investigation of the primary concern of the study, using

specific schools as the unit of study. The use of a multiple case study approach

contributed to the understanding of contextual variations, or lack thereof, across

sites (Gay, Mills, & Airasian, 2009; Yin, 2003).

Given the complexity of this study, a qualitative and quantitative mixed

method case study design grounded in the tradition of participatory action

research was employed. Through the use of a mixed methods approach, I was

able to look at the implementation process from a variety of angles,

complementing the theoretical framework of co-construction (Johnson &

Onwuegbuzie, 2004). A mixed methods approach was used primarily for the

purpose of complementarity. In a complementarity mixed methods study, results

from different methods are used to describe and better understand the same

complex phenomena (Greene & Caracelli, 1997), which in this study was the

MOWR implementation process. Quantitative and qualitative data were collected

concurrently.

The study was grounded within the research paradigm of participatory

action research (Stringer, 2007). The participants in the study were collaborators

in a cyclical research process, actively engaging in an ongoing process of

clarification and reflective action (Fullan, 2007) for the explicit purpose of

enhancing the implementation of MOWR. This type of action research was

particularly appropriate for this study given the focus on local context and local

needs, and the application of a co-constructed policy theory.

Implementation Phase Focus

CFA planned for several MOWR reform phases (Fullan, 2007). Figure 3

depicts these planned phases and the related timeline. Elements of the figure are

adapted from a timeline depicting the reform phases of the New American

Schools Development Corporation initiative (Bodilly, 1996). The present study

focused on the early implementation phase due to time constraints and the

knowledge that the implementation phase may take years (Fullan, 2007).

Appendix E provides a description of the MOWR anticipated programmatic

implementation trajectory.

Fall 2009 – Consortium on BES formed

Summer 2010 – MOWR policy signed into Arizona law

Summer 2010 – RFP issued to BES providers by Consortium on BES

Fall 2010 – AZ State Board of Education selects CFA to manage MOWR for first five years (working directly with schools)

Fall 2010 – BES providers certified by Consortium

Winter 2011 – AZ State Board of Education approves AZ MOWR rules and BES providers

Winter 2011 – Identification by CFA of Arizona early adopter schools (to begin in fall 2011 with a freshman cohort)

Phase 1: Design	**Phase 2: Adoption**	**Phase 3: Implementation/Demonstration**	**Phase 4: Scale-Up/Institutionalization**
Develop and communicate MOWR concept and initiative.	Establish policy and develop the MOWR design and assistance concepts to enable Arizona schools to adopt MOWR.	Further develop and define the MOWR design concepts in volunteer school sites. Demonstrate all elements of MOWR in the sites. Build capacity of CFA and other actors (BES providers, NCEE.	Introduce refined MOWR design into schools across the state in strategic effort between the school site, CFA, NCEE, and the BES provider.

| 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |

Figure 3. Timeline for CFA MOWR reform agenda.

Participants

The study participants included: administrators, teacher leaders, grade 9 teachers, and counselors from five early adopter schools that volunteered to implement MOWR; CFA staff, including myself; staff members from NCEE, the national organization working with CFA on MOWR; and staff from a philanthropic organization that provided a planning grant to CFA.

66

Early adopter MOWR schools. Five schools from among the twelve schools initially implementing MOWR with grade 9 students in fall 2011 were invited to participate in the study. In order to obtain permission from identified school sites to conduct a research study, a written letter was sent in spring 2011 to the district and charter network offices to seek approval. Once district and charter network level permission was obtained to conduct the study, each of the school principals were contacted via email in order to seek permission from the individual school sites to participate in the study.

A mixed purposeful sampling strategy that combines various sampling strategies (Patton, 1990) was employed to identify the prospective participant schools to serve as the individual cases in the study. A mixed purposeful sampling strategy allows for flexibility, meets multiple interests and needs, and helps in triangulation (Patton, 1990). Given the scope of the study and timeline available for conducting the study, it would have been challenging to study all twelve schools. At the same time, the goal of this action research study was to gain a good understanding of the implementation process across different types of schools that are representative of the larger set of early adopter schools and reflective of the diversity of schools across the state in regard to geographic location, size, and population of students served. The five schools identified to participate in the study shared similarities that existed across all of the early adopter fall 2011 schools, such as a commitment to implementing MOWR and offering the program beginning with grade 9 students. However, the five schools

67

also displayed natural variations between each other. The schools were diverse in

terms of type of school (charter or district), the number of students served, student

population, the school locale (such as rural or urban), and the way in which they

planned to implement MOWR (a whole-school or partial-school strategy). The

schools also varied in regard to the MOWR selection process, also known as an

adoption process (Fullan, 2007), that they followed leading up to the point of

implementation. These variations in diversity and adoption provided for variation

in the sample that was useful in assisting CFA to better understand how the

MOWR implementation process unfolds at the local level in different schools

across Arizona. Table 1 provides demographic information about the five schools

selected to participate in the study. (See Appendix F for a detailed description of

the locale codes.)

Table 1

Participant School Demographic Data

School	School Type	School Locale	Grade Span	Total Enrollment	Title I Status
Site A-1	District	City: Small	Grades 9-12	1,739	Title 1 School School-Wide
Site A-2	District	Rural: Fringe	Grades 9-12	2,502	Title 1 School School-Wide
Site B-1	Charter	Rural: Fringe	Grades K-7	254	Title 1 School
Site B-2	Charter	City: Large	Grades K-9	674	Title 1 School
Site C-1	District	City: Large	Grades 9-12	1,532	Title 1 School School-Wide

Note. From Common Core of Data, Public School Data 2009-2010, National Center for Education Statistics. School sites B-1 and B-2 are expanding through grades 12.

CFA. Five CFA staff members were involved in the study. As the lead of the MOWR CFA team, I played a primary role in the initiative and in the study as a participant and as a researcher. This role is described in greater detail within the role of the researcher subsection. The other CFA staff participants included the executive director of CFA, a full-time staff member, a graduate research assistant, and an administrative assistant. The CFA staff members engaged directly with early adopter schools through active participation in meetings and in responding to school needs.

Local philanthropic education organization. A local philanthropic education organization awarded CFA an 18-month planning grant for the purposes of developing an actionable whole-school implementation plan with a school district and to develop a more general blueprint to be used by any school

site planning to implement MOWR as a whole-school strategy. The philanthropic organization assigned a consultant and two senior staff members to work closely with CFA in the process. Because of the direct connection between the study and the work that was conducted through the planning grant, the philanthropic organization's staff was included as participants in the study. The consultant was the primary participant.

NCEE Arizona engagement manager. NCEE, the national organization responsible for the Consortium on Board Examination Systems and the pilot study designed to evaluate the effectiveness of BES in U.S. settings, assigned a state engagement manager to work directly with Arizona. The NCEE Arizona engagement manager worked directly with early adopter schools, conducting site visits and providing direct assistance when needed. The NCEE Arizona engagement manager was engaged in data collection during this study. During the course of the study, two different people served in the role of the Arizona engagement manager. The person initially filling the role was based out of state and left the position half way through the study. NCEE immediately filled the position, hiring someone who was based in Arizona with over 20 years of experience in education as a teacher, school administrator, and district administrator. Both individuals were included as participants in the study.

Data Collection Instruments and Procedures

Data collection instruments for this study consisted of surveys, interviews, observations, focus groups, and a document review. The data sources were

purposefully selected in order to capture the full experience of the participants so that information and knowledge gained could be applied to the issue being studied, which is consistent with action research (Stringer, 2007). For each case, or school site, data collection included school level surveys, interviews, MOWR school level design team meeting observations, school site visit observations, and a document review. Additional cross-case data collection included MOWR Learning Collaborative observations, district and charter network meeting observations, and a focus group with non-school actors. Appropriate data collection instruments were identified for each research question. Table 2 describes the relationship of each instrument of data collection to each research question, assuring that each research question was appropriately addressed. The "X" in the matrix cell identifies that a given data collection instrument tool was used to investigate and collect information for a specific research question. Table 2 reflects the data collection instruments used to comprise the case study components, and the data collection instruments used to collect information beyond individual cases. Appendix G describes the timeline associated with the innovation procedures.

Table 2

The Relationship of Data Collection Instruments to Research Questions

Data Collection Instruments	RQ1 What promotes or hinders the implementation of MOWR at the local level in multiple school sites across Arizona?	RQ1.1 To what extent and in what ways is MOWR being implemented at the local level?	RQ1.2 What are the factors that appear to enhance or impede the implementation of MOWR at the local level?	RQ1.3 In what ways does CFA influence the implementation process of MOWR at the local school level?
Case Study Components				
School level Survey	X	X	X	
MOWR School level Design Team Observations	X	X	X	X
School Site Visit Observations	X	X	X	X
Interviews	X	X	X	X
School Document Review (Including MOWR Planning and Implementation Guides)	X	X		X
Within and Cross-Case Components				
MOWR Learning Collaborative Observations	X	X	X	X
MOWR Non-School Actors Focus Group	X	X	X	X

District and Charter Network Meeting Observations	X	X	X	X

Survey. A school level survey was used to evaluate research questions 1.1 and 1.2., as identified within Table 2. All administrators, teacher leaders, and grade 9 teachers from each of the participating school sites were invited to take an electronically administered survey. The survey included a brief description of the study, directions for completing the survey, an assurance of anonymity, demographic data questions, and survey questions.

The survey was administered two times during the study. Survey 1 (see Appendix H) served as a pre survey and survey 2 served as a post survey. The survey consisted of items organized by constructs identified in the research literature as factors that influence implementation of education reform. The constructs included: district contexts (support for the initiative, human and fiscal resources, allowance of school autonomy); school capacity (principal leadership, human and fiscal resources, teacher motivation, and fit of the reform with school goals); selection process (teacher buy-in and engagement); extent of implementation of MOWR (programmatic fidelity, changes in teacher practices, teacher perceptions of students and student readiness to learn, and changes in belief and understanding); BES reform design and support (timeliness of training, quality of training, and level of support provided); MOWR reform design and support (clarity of the reform elements and understanding of the reform purpose);

73

and teacher efficacy (teaching efficacy and personal efficacy). The responses were based on a Likert-type scale. The survey items related to teacher efficacy were based on a 10-item survey developed by Hoy and Woolfolk (1993). The survey contained five personal and five general teaching efficacy items. For both dimensions the lower the score, the more efficacious the teacher. The 10-item survey is reported to have alpha coefficients of reliability of .77 for personal teaching efficacy and .72 for general teaching efficacy (Hoy, 1993.)

The survey was piloted during the spring 2011 term with a minimum of fifteen individuals who were similar to those who participated in the study (Fink, 2003). Cronbach's alpha coefficient for internal consistency reliability was calculated and reported at .75 (Cronbach, 1951). The survey was revised where pilot results indicated a lack of clarity or a tendency for participants to misunderstand the intent of the question, or where internal reliability was low. Survey 1 was administered in October 2011. Survey 2 was administered in January 2012.

Observations. Observations were conducted throughout the study during MOWR Learning Collaborative team meetings, school level design team meetings, school site visits, and district and charter network meetings for the purpose of answering research questions 1.1, 1.2 and 1.3. A meeting observation protocol was developed and utilized during the MOWR Learning Collaborative meetings and the school level design team meetings. (See Appendix I.) The MOWR Learning Collaborative meetings took place monthly. Two meetings

74

took place in person in April 2011 and October 2011. The remainder of the meetings took place telephonically. School level design team meetings took place beginning in April 2011. All of the MOWR Learning Collaborative meetings and the school level design team meetings were audio recorded with the consent of the participants and transcribed using Microsoft Word. The transcripts were stored electronically as word processing files, printed out in hard copy, and stored in a notebook binder. CFA conducted a minimum of two visits to each school during the study.

Descriptive and reflective field notes were made following school site observations and district and charter network meetings (Glaser & Strauss, 1967). Because I worked with complex cases, I intentionally sampled through my site observations characteristics of the setting, events, and processes. Consistent with co-construction theory, I looked for interplay of actors, events, and settings. In an effort not to sample too narrowly (Miles & Huberman, 1994) my colleagues and I specifically sought out opportunities during school site visits to talk with people in different settings and with people who were not central to the phenomena being studied. For example, I sought opportunities to talk with teachers during lunch or in the teachers' lounge, and made efforts to attend community events affiliated with the school that might provide an opportunity to talk with community members or school board members.

Interviews. Semi-structured interviews were conducted with teachers in January 2012 and February 2012 from each school site in the study in order to

better understand and confirm answers to research questions 1.1, 1.2, and 1.3.

Mixed purposeful sampling (Patton, 1990) was employed to select the classroom

teachers teaching a BES course in fall 2011 to be interviewed and to serve as

information rich cases. Specifically, at each site I identified a teacher to be

interviewed whose experience was exceptional in some way and a teacher whose

experience was negative or disconfirming in some way (Miles & Huberman,

1994). A total of two teachers were identified at each site from the departments

of English, Mathematics, Science, Social Science, and/or Fine Arts through

sources other than the supervisor(s) of the teachers. Examples of sources that

were utilized to identify teachers included observations made by participants

engaged in the study, and informal conversations with teachers and the MOWR

school level design team. The teachers interviewed all taught grade 9 students, as

this was the population of students that were exposed to the BES system during

the time period of the study. The interview protocol included fifteen questions

and took between ten and twenty-five minutes to complete. (See Appendix J.) The

questions were open-ended and aligned to research questions 1.1, 1.2, and 1.3.

The interview protocol was piloted with a teacher from one of the early adopter

MOWR school sites that was not included in the study, and revised accordingly.

Interviews were conducted with the principal of each school site in the

study and with a district or charter network administrator. The interview protocol

was similar to the teacher interview protocol in number of questions, length of

time to complete, type of questions, and in alignment to research questions 1.1,

1.2 and 1.3. (See Appendix K.) The administrator protocol was piloted with two

school administrators and one district administrator from early adopter MOWR

sites not included in the study, and revised accordingly. The interviews were

conducted in January 2012 and February 2012.

All interviews were audio recorded with the consent of the participants.

The interviews were stored electronically as digital files. Two graduate students

who were not affiliated with CFA or MOWR conducted the interviews. These

individuals were distanced from the study and were unknown to the teachers and

to the administrators. The graduate research assistants were trained on the

interview protocol and provided with an interview procedure checklist.

Focus groups. A focus group was conducted with study participants

outside of the school (non-school actors) to assist in answering research questions

1.1, 1.2, and 1.3. The focus group participants included one CFA staff member

engaged in the MOWR effort, the NCEE Arizona engagement manager, one of

the BES providers, and the consultant who worked directly with the philanthropic

partner. A focus group discussion protocol was utilized. (See Appendix L.) The

protocol contained six open-ended questions aligned to research questions 1.1,

1.2, and 1.3. The questions related to the participant's perceptions of the fidelity

of and process of implementation, their perceptions regarding the factors that

promoted or hindered the implementation of MOWR, and their perceptions

regarding CFA's role in helping schools to implement MOWR. The focus group

took place in January 2012. In an effort to decrease bias, a graduate research

77

assistant not affiliated with CFA or with MOWR administered the discussion

protocol and facilitated the focus group. The focus group was audio recorded,

with the consent of the participants, and was transcribed for analysis using

Microsoft Word. The transcript was stored electronically as a word processing

file, printed out in hard copy, and stored in a notebook binder.

Review of Documents. A document review was completed for the

purpose of answering research question 1.1 and 1.3. Examples of documents that

were reviewed for this purpose included partner school sites' master schedules,

documentation of professional development attended by teachers, district policy,

school plans for student achievement, district and school web sites, memos,

communication materials for students and parents, and local and state news and

media reports related to MOWR. Examining such documents contributed to

understanding what was happening within classrooms and schools (Mills, 2007).

All collected documents were stored in a binder and categorized by school site

and according to their purpose.

Additionally, the MOWR planning and implementation guides completed

by each school site and submitted to CFA in November 2011 were reviewed for

the purpose of answering research questions 1.1. The guides provided a means of

tracking change and development in the study, and corroborating evidence from

other sources (Bowen, 2009).

Data Analysis Plan

Both quantitative and qualitative data analysis techniques were utilized to gain a more full understanding of the extent and the ways in which MOWR was implemented in school sites, the factors that appeared to enhance or impede the implementation, and the ways in which CFA influenced the MOWR implementation process at the school level. The results from the quantitative data were directly compared with results from the qualitative data for the purposes of seeking elaboration, enhancement, and clarification of the results (Greene, 2007; Johnson & Onwuegbuzie, 2004). Consistent with action research studies, data collected during the study was used for formative and summative purposes (Mills, 2007). Data were analyzed at intervals throughout the study. The interim analyses allowed for reflecting on what had occurred at various points in the study and making changes to data collection strategies based on the kinds of questions and issues that arose during the ongoing data analysis (Miles & Huberman, 1994; Mills, 2007). For example, in some school sites new data were collected to fill in identified gaps. A within-case and cross-case analysis was conducted. School level surveys, MOWR school level design team observations, school site visit observations, interviews, and documents were analyzed as case study components for each school site. MOWR Learning Collaborative observations, a non-school actor focus group observation, and district and charter network meeting observations were analyzed separately from the individual cases, and were utilized to supplement initial findings and to deepen understanding.

Qualitative data analysis. A constant comparative analysis approach was employed to analyze the qualitative data gathered through observations, interviews, and focus groups during the study (Strauss & Corbin, 1998). The data were coded, which means that tags or labels were used to assign meaning to chunks of text in order to retrieve and organize the qualitative data (Miles & Huberman, 1994). An initial list of codes was identified prior to the initial data analysis. (See Appendix M.) The codes were developed from the conceptual framework, the research questions, and the factors influencing education reform implementation and educational change, as identified in the research literature (Miles & Huberman, 1994). The first level of data analysis was completed utilizing open coding, where I read the data and attempted to assign codes that appeared to make sense (Strauss & Corbin, 1998). As I read through the data, I made notes in the right margin that served as pre-analytic remarks for the purpose of documenting ideas and reactions to what I was seeing in the data (Miles & Huberman, 1994). The "start list" of codes was applied to the initial set of transcribed data and examined for fit and power (Miles & Huberman, 1994). The list of codes was substantially revised. Other codes emerged during data collection (Miles & Huberman, 1994). To identify these, additional coding procedures were utilized. Examples of coding procedures used included "filling in," or adding codes; "extension," or returning to texts coded earlier and analyzing them in a new way; and "surfacing," which was the identification of new categories (Lincoln and Guba, 1985). I developed a set of definitions of the codes

to facilitate consistent application of the codes (Miles & Huberman, 1994). Having established a working set of descriptive codes, I then identified pattern codes to help identify emergent themes or explanations that I was beginning to see in the data (Miles & Huberman, 1994). I employed memoing as an analytic strategy to document insights I had that suggested possible meanings and relationships among the data (Glaser & Strauss, 1967; Miles & Huberman, 1994). Coding was completed as part of early and continuing analysis, aiding in the ability to identify real or potential sources of bias and surfacing incomplete data that could be addressed the next time in the field at the school sites (Miles & Huberman, 1994). Memoing took place throughout the study as ideas occurred. The memos were dated and linked to particular places in the transcribed data (Miles & Huberman, 1994).

Descriptive and reflective field notes (Glaser & Strauss, 1967) were developed from raw field notes following site visits to the schools. Reflective remarks were integrated directly into the write-ups. I utilized specific categories derived from the conceptual framework and research questions as a way to organize my reflective remarks. Examples of categories utilized included the extent of MOWR implementation, factors that are shown to promote or hinder implementation or change, such as district context, school context and school capacity, and actions taken by CFA to facilitate implementation at the particular site.

The documents collected during the study were analyzed through the process of skimming, reading, and interpretation for the purpose of organizing data into categories and themes (Bowen, 2009). The codes identified through the qualitative analysis of observations, interviews, and focus groups were applied to the content of the documents (Bowen, 2009). The document analysis was supplementary to other forms of analysis in the study.

Analytic memos were utilized to begin analyzing data while I was still in the process of continuing to collect data and in early data analysis. The analytic memos focused on what had occurred thus far in the research process, what was being observed and learned, insights provided, and any connections that I saw in relation to the three research questions. The analytic memos were dated and entitled with key concepts being discussed.

Quantitative data analysis. The quantitative data gathered from the school level surveys were analyzed utilizing SPSS to display descriptive statistics, including the analysis of frequencies, and correlations through the use of Pearson's correlation coefficient analyses, which is a statistical test used to determine if a relationship exists between two variables (Gay, Mills, & Airasian, 2009; Pearson, 1900). The internal reliability of each construct in the survey and the survey as a whole was measured using Cronbach's alpha coefficient (Cronbach, 1951).

Scales were developed for each of the constructs within the survey. Scale scores were created through a summation of the survey items for each construct.

Descriptive analysis was used to determine the distribution of variables for each scale. Skew was calculated for each scale on the pre and post survey results. Reliability analyses were conducted on each scale to determine the Cronbach-alpha coefficient (Cronbach, 1951). Descriptive statistics were reported for all scales, including the mean, standard deviation, and number of respondents for the pre and post survey for each school site. An independent-samples t test was applied to determine whether or not change had occurred in individual school sites over time between the administration of the school level survey 1 and the administration of school level survey 2.

Through analysis of the descriptive statistics, two school sites were identified based on the mean scale scores for extent of implementation on the pre and post survey results that reflected the two extremes of implementation (high and low) out of the total of five cases in the study. An independent-samples t test was then conducted to evaluate differences between the two school sites on the MOWR and BES Implementation scale.

The quantitative data from the school level surveys were analyzed to assist in answering research questions 1.1 and 1.2 through the development of two case studies. For example, to answer research question 1.1, the mean response for all respondents and the mean response by school position were examined for the scale related to the construct of implementation. An item analysis was then conducted for the six survey questions that specifically addressed extent of MOWR and BES implementation. To answer research question 1.2, the mean

response for all respondents and the mean response by school position were examined for the scales related to the constructs within the survey shown to promote or hinder implementation, such as school capacity and selection process. Correlation coefficients were computed to determine if there was a relationship between the implementation scale and any of the other survey scales related to constructs identified in the research literature that can enhance or impede implementation of school reforms. For example, a correlation was run to determine if there was a relationship between extent of implementation and school capacity.

Within-case analysis. A case study was developed for the two school sites identified through the initial quantitative data analysis utilizing the general analytic strategies of relying on theoretical propositions that led to the development of each research question in my study and then thinking about rival explanations (Yin, 2003). Interim case studies were developed that presented a description of the site and a review of current findings for each research question coupled with an examination of the quantitative and qualitative data supporting the findings. Uncertainties or questions were documented, as were alternative explanations or disagreements about what was happening. Common formatting was utilized for each case summary. The interim case summaries served as the basis for the final case summaries.

Case analysis conversations took place with participants in the study to assist in understanding what was happening in each school site. Participants in

case analysis conversations varied, but typically included CFA staff engaged in the project, school site participants, the NCEE Arizona engagement manager, and on some occasions the philanthropic foundation consultant. Initial analyses of qualitative and quantitative data were discussed. The case analysis conversations also provided an opportunity to explicitly discuss alternative explanations, interpretations, or disagreements about what was going on in the case (Miles & Huberman, 1994).

Cross-case analysis. A cross-case analysis was completed to deepen understanding and explanation of the phenomena being studied (Gay, Mills, & Airasian, 2009; Glaser & Strauss, 1967; Miles & Huberman, 1994; Yin, 2003) and to more fully answer the research questions. The first cut at the cross-case analysis was the construction of a partially ordered meta-matrix (Miles & Huberman, 1994). The case study results were synthesized and key themes emerged. Organized around the three research questions guiding the study, similar results were discussed as well as contrasting or rival results that could be useful in examining what promotes or hinders implementation of MOWR at the local school level in Arizona.

Validity

Given the extent of my personal involvement in MOWR and its implementation in schools, it was essential that I sought to establish and maintain validity throughout the study and in the analysis of data. Validity refers to the appropriateness, meaningfulness, and usefulness of the inferences made by the

researcher (Fraenkel & Wallen, 2005, p. 152). Validity was important to establish

for the quantitative and qualitative measures employed in this study. Prior to

being piloted, content validity for the school survey and interview protocols were

established through a review of the instruments by my CFA colleagues and the

NCEE Arizona engagement manager to examine the appropriateness of the

content and format in relation to what was to be assessed (Fraenkel & Wallen,

2005; Gay, Mills, & Airasian, 2009; Maxwell, 1992). For the qualitative data, I

took steps to establish descriptive validity, interpretive validity, theoretical,

generalizability, and evaluative validity (Gay, Mills, & Airasian, 2009; Maxwell,

1992).

Descriptive validity, which refers to the factual accuracy of the account

(Maxwell, 1992), was established through prolonged participation at the study

site, which provided an opportunity to persistently observe, reduce distortions

possibly produced by my presence, and allow me to test biases and perceptions

(Gay, Mills, & Airasian, 2009; Maxwell, 1992). The use of multiple researchers

also assisted in establishing descriptive validity. The multiple researchers

included my CFA colleagues, the members of the MOWR school level design

team, the NCEE Arizona engagement manager, the graduate students who

conducted interviews, and occasionally the philanthropic consultant. I also

established an audit trail that enabled me as well as others to go back to original

source data to verify quotes or other data reported in the study. Additionally, I

utilized the case analysis conversations and the MOWR school level design team

meetings to confirm the description of settings, events, and observations made with others who were present.

Member checking was employed in an effort to establish interpretive and theoretical validity. Interpretive validity refers to what an account means to the actual participant in the study (Maxwell, 1992), or the meaning attributed to the behaviors or words of the participants (Gay, Mills, & Airasian, 2009). Theoretical validity relates to whether or not there is consensus on the terms used to characterize or explain the phenomena that has been studied or described in the research (Maxwell, 1992). I shared the case summaries with the school leaders and the NCEE Arizona engagement manager, one of the non-school actors engaged in the study, to test if the reports reflected their perspectives on what was occurring at the school sites, and to determine the appropriateness of the explanations.

With regard to generalizability for this particular study, which is the extent to which an account of a particular situation or setting can be extended to others (Maxwell, 1992), I was primarily concerned only with internal generalizability, or the extent to which an account can be generalized within the school and community. While difficult to establish, one way that I sought to do this was through the use of the school level survey that enabled me to gather data from all of the grade 9 teachers and administrators in a school whom I otherwise would not be able to reach through interview or observations due to the time constraints of the study. The school level survey was designed to measure the same

constructs that were reflected in the interview protocol, which made it possible to either confirm or disconfirm findings.

Evaluative validity was perhaps the most challenging to establish. Evaluative validity relates to whether or not a researcher is objective enough to report data in an unbiased way, without making judgments and evaluations of the data (Gay, Mills, & Airasian, 2009). While my aim was to describe and understand the phenomenon of the implementation of MOWR, I needed to guard against making judgments. Ways in which I sought to accomplish this were including primary accounts of data, reporting fully, including data that were discrepant, being open about my role in the study and my direct relation to MOWR in Arizona, and by seeking feedback throughout the study as well as once the findings were written to assess the accuracy of the account. Through my analytic memos, I made a conscious effort to reflect upon what I might be missing, what other explanations could be present, and to read against what I was observing in the sites and collecting in data to search for alternate meanings.

Throughout the study, I adopted what Kvale (1996) describes as a critical outlook on the analysis and the role of the "devil's advocate" toward my own findings (p. 242). In addition to the approaches described previously within this section, I employed tactics such as weighing the evidence through early and ongoing analysis, looking for negative evidence, following up on anything that surprised me or my co-researchers, using extreme cases in the interviewing sample, and seeking ongoing feedback from informants at the school site,

colleagues at CFA, and the other non-school actors involved in the study (Kvale, 1996). In many ways, the quality and pragmatic validity (Kvale, 1996) of this study depended on my ability to be honest in my approach. Whether or not the results of the study are utilized, by whom, and in what ways will be the ultimate test of the credibility and truthfulness of this action research study.

Limitations

One major limitation of this study was the relative short amount of time within which the study was conducted. The time limitations likely influenced the comprehensiveness of the results. While every effort was made to maintain the integrity of the data collection procedures and to employ processes to check for validity of results, another limitation was my own potential bias or subjectivity given my role within the study. Small sample size may also be seen as a limitation. Five sites were selected in order to maximize the effectiveness of the qualitative research collected through the multiple-case study approach. However, the statistical power of the quantitative analysis is limited.

Role of the Researcher

Within this study, I acted as a full participant-observer. As discussed, I am personally invested in the success of the MOWR initiative in my role as project lead. I am also personally and professionally motivated to improve educational outcomes for all populations of students, and in particular low-income students. I believe that it is possible for all students to learn and achieve at high levels. These beliefs are grounded in my own past experiences as a classroom

teacher and influenced by current professional practice. Therefore, I cannot claim

that I entered this study with no prior experience or theories that influenced my

conceptualization of the study, or that may have influenced my role as a

participant-observer. I intentionally selected a theoretical framework of co-

construction and developed two conceptual frameworks that acknowledged my

role in the implementation process of MOWR, but that placed me within a larger

system. In this way, I was able to somewhat distance myself from the study and

focus on the phenomena of interest. Additionally, through the research design I

purposefully sought opportunities through which I could invite critique of

MOWR, the implementation process, and the study findings. This is evident

within the instruments, but more so through the data analysis approach and

intentional decisions to establish validity.

Conclusion

Chapter 4 described the research methodology utilized for this study. The

study participants, instrumentation and data collection procedures, and methods of

qualitative and quantitative analysis were presented. The assumptions and

limitations of the study and my own role as a researcher and participant were also

explained. In the next chapter, the study findings and analysis are presented.

Chapter 5

DATA FINDINGS AND ANALYSIS

Introduction

As described in Chapter 1, the purpose of this study was to understand what promotes or hinders the implementation of a high school education reform policy in Arizona schools from the perspective of a nonprofit organization working directly with schools and policymakers. The overarching question that guided this study was: What promotes or hinders the implementation of MOWR at the local level in multiple school sites across Arizona? The following sub questions framed the study:

1. To what extent and in what ways is MOWR being implemented at the local school level?

2. What are the factors that appear to enhance or impede implementation of MOWR at the local school level?

3. As an intermediary, in what ways does CFA influence the implementation process of MOWR at the local school level?

A multiple case study method was utilized to analyze how the MOWR implementation process works in schools from the perspective of the people most closely involved in the implementation at the school level (Gay, Mills, & Airasian, 2009; Johnson, 2001). Five schools were included in the study. The individual schools served as the unit of study or case. Each case study contained multiple sources of data, which was important to the reliability of the study (Yin,

2003). A mixed methods approach was used primarily for the purpose of complementarity in order to describe and better understand the MOWR implementation process using results from different methods (Greene & Caracelli, 1997). The primary sources of data for each case study were:

- School level survey (administered twice)

- MOWR school level design team observations (minimum of two; meetings were recorded and transcribed)

- School site visit observations (minimum of two)

- Interviews (two teachers, the principal, and a district administrator)

- Review of site documents

Additional cross-case data collection included MOWR Learning Collaborative observations, district and charter network meeting observations, and a focus group with MOWR non-school actors. All meetings were recorded and transcribed.

This chapter begins with the results from the quantitative data analysis from each of the five cases. The process of creating scales for each of the constructs within the school survey is described. Reliability analysis was used to develop the scales. Descriptive statistics are reported for all scales, including the mean, standard deviation, and number of respondents for the pre and post survey for each school site. Through analysis of the descriptive statistics, two school sites are identified that reflect the two extremes of implementation (high and low) out of the total of five cases in the study.

An independent-samples t test was conducted to evaluate differences between the two school sites on the MOWR and BES Implementation scale. A statistically significant difference was found. The results from the quantitative data analysis provide the rationale for the selection of two schools sites to serve as full case studies, for which further quantitative and qualitative data analysis results are presented.

The two case studies are shared separately. Each case study provides a brief description of the school and the findings from the multiple sources of data collected from each school. The narrative structure of each case study is grounded in the three research questions and guided by the trends and patterns that emerged from the quantitative data from the school survey. Demographic characteristics are reported for gender, race, school position, grades taught, subject taught, and years of experience. The trends and patterns are then further described and understood through the qualitative data presented from the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and review of site documents. Finally, the chapter closes with a cross-case analysis of the two case studies.

Quantitative Data Analysis Results

Response rate. All administrators, teacher leaders, and grade 9 teachers from each of the participating school sites were invited to take an electronically administered survey through Survey Monkey. The same survey was administered

93

two times during the study, once in October 2011 and again in January 2012. The

survey response rate is shown in Table 3 below.

Table 3

MOWR School Survey Response Rate

School Site	N	Pre Survey Response		Post Survey Response	
		%	n	%	n
A-1					
Administrators	4	75	3	0	0
Teacher Leaders	9	100	9	55	5
Teachers	18	88	16	55	10
A-2					
Administrators	2	100	2	50	1
Teacher Leaders	5	80	4	40	2
Teachers	25	60	15	40	10
B-1					
Administrators	1	100	1	100	1
Teacher Leaders	1	100	1	0	0
Teachers	7	86	6	57	4
B-2					
Administrators	4	25	1	50	2
Teacher Leaders	4	75	3	100	4
Teachers	9	22	2	78	7
D-1					
Administrators	5	60	3	60	3
Teacher Leaders	14	50	7	57	8
Teachers	27	15	4	44	12

Data screening. Data were imported into SPSS directly from SurveyMonkey software. Data screening and missing data procedures were performed. Frequency distributions were examined for possible data entry errors, including unusual patterns of responses. No significant errors were found. Missing data were identified. No variable had more than 10% missing values. The Little's MCAR test obtained for this study's data resulted in a chi-square = 449.44 (df=502; $p < .955$), which indicated that the data were indeed missing at random (i.e., no identifiable pattern exists to the missing data). Missing values were left in place and were treated in SPSS as system missing values.

Scale creation. Scales were developed for each of the constructs within the survey. The constructs included: MOWR and BES implementation, district context, school capacity, selection process, BES reform design and support, MOWR reform design and support, teaching efficacy, and personal efficacy. The scale descriptors are described in Table 4.

Table 4

Scale Descriptors

Scale	Descriptor
MOWR and BES Implementation	Extent to which there is program fidelity, changes in teacher practices, teacher perceptions of students and student readiness to learn, and changes in belief and understanding
District Context	Extent to which there is support for the initiative, human and fiscal resources, and allowance of school autonomy
School Capacity	Extent to which there is principal leadership, human and fiscal resources, teacher motivation, and a fit for the school
Selection Process	Extent to which there is buy-in and engagement in the adoption and development of the model, and fit of the reform with school goals
BES Reform Design and Support	Extent of timeliness of training, quality of training, and level of support provided by the BES provider
MOWR Design	Extent to which there is support for and understanding of the MOWR reform.
Teaching Efficacy	Extent to which one believes teachers can overcome factors external to the teacher and classroom
Personal Efficacy	Perceptions of one's own capabilities to foster students' learning and engagement

Scale scores were created through a summation of the survey items for each construct. Descriptive analysis was used to determine the distribution of variables for each scale. Skew was calculated for each scale on the pre and post survey results. The skew statistic showed that each scale, with the exception of personal efficacy for the pre survey only, was normally distributed, as evidenced by a skew value between -1 and 1 for each scale (Morgan, Leech, Gloeckner, & Barrett, 2004). See Appendix N. Reliability analyses were conducted on each scale to determine the Cronbach-alpha coefficient (Cronbach, 1951). The scales

were judged to have a moderate degree of reliability for both pre and post

surveys. Although the internal reliability of the District Context scale yielded the

lowest degree of reliability (α=0.70, 0.75) on the pre and post surveys

respectively, the internal reliability was found to be maintained.

Table 5

*Pre/Post Survey Scale Coefficient-Alpha Estimates of Internal Consistency
Reliability*

Scale	# of Items	Pre Survey	Post Survey
		N=73	N=69
MOWR and BES Implementation	10	.80	.83
District Context	4	.70	.75
School Capacity	6	.85	.86
Selection Process	4	.88	.87
BES Design and Support	3	.70	.85
MOWR Design	6	.87	.92
Teaching Efficacy	5	.86	.81
Personal Efficacy	5	.82	.79

Note. Items for all scales were 5-point Likert scale questions with the exception of Teaching
Efficacy and Personal Efficacy. Items for these scales were 6-point Likert scale questions.

Descriptive statistics. Descriptive statistics are reported for each scale.

For each school site the number of respondents, mean, and standard deviation are

given for the pre and post survey results. The results are reported by school and

by individual school position. Table 6 contains the descriptive statistics for the

MOWR and BES Implementation scale.

Table 6

Descriptive Statistics for MOWR and BES Implementation Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	22	26.32	4.99	15	26.73	5.47
Administrators	2	21.50	.71	0	--	--
Teacher Leaders	7	26.86	3.02	5	26.80	3.83
Teachers	14	26.79	5.66	10	26.10	6.47
A-2	20	28.85	7.49	14	27.93	5.64
Administrators	2	26.00	4.24	1	29.00	--
Teacher Leaders	4	32.75	7.23	2	28.50	4.95
Teachers	15	28.33	7.63	10	28.10	6.42
B-1	8	24.75	7.29	5	24.60	8.14
Administrators	1	18.00	--	1	11.00	--
Teacher Leaders	1	11.00	--	0	--	--
Teachers	6	28.17	3.66	4	28.00	3.37
B-2	6	24.00	6.42	10	19.20	6.10
Administrators	1	17.00	--	2	22.00	8.49
Teacher Leaders	3	25.00	7.55	3	22.00	8.19
Teachers	2	26.00	5.66	5	16.40	3.58
C-1	11	29.09	4.32	19	31.00	5.28
Administrators	2	29.50	6.36	3	27.00	1.73
Teacher Leaders	6	28.17	4.49	7	32.71	4.89
Teachers	4	32.00	4.24	11	30.91	5.45

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained 10 items. Possible range for the scale was 10 to 50.

The possible range on the MOWR and BES Implementation scale was 10 to 50, where lower scores indicated higher levels of implementation. The school site with the lowest mean score on the pre survey for all respondents on the MOWR and BES implementation scale was school site B-2 (M=24.00, SD=6.42). The mean response for all respondents at school site B-2 fell between *agree* and *neither agree nor disagree*. School site B-2 also had the lowest mean score for this scale on the post survey for all respondents (M=19.20, SD=6.10). For all respondents the mean response fell between *strongly agree* and *agree.*

In examining mean teacher responses for pre and post surveys, school site B-2 had the lowest score. The mean teacher response for school site B-2 on the pre survey (M=26.00, SD=5.66) and the post survey (M=16.40, SD=3.58) was consistent with the mean results for all respondents at the same school site.

The school site with the highest mean score on the pre survey for all respondents on the MOWR and BES Implementation scale was school site C-1 (M=29.09, SD=4.32). For all respondents the mean response at school site C-1 fell between *agree* and *neither agree nor disagree*, but closest to *neither agree nor disagree.* School site C-1 also had the highest mean score for this scale on the post survey for all respondents (M=31.00, SD=5.28). For all respondents the mean response fell between *neither agree nor disagree* and *disagree*, but closest to *neither agree nor disagree.*

Similarly, teachers at school site D-2 had the highest mean score on the pre and post survey of any school site. The mean teacher responses for school site

99

B-2 on the pre survey (M=32.00, SD=4.24) and the post survey (M=30.91, SD=5.45) was consistent with the mean results for all respondents at the same school site. Table 7 contains the descriptive statistics for the District Context scale.

Table 7

Descriptive Statistics for District Context Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	24	8.25	2.23	16	9.63	2.28
Administrators	3	8.00	0.00	0	--	--
Teacher Leaders	8	7.75	2.05	5	9.00	2.65
Teachers	15	8.80	2.48	10	10.20	2.04
A-2	20	9.25	2.63	14	9.79	1.97
Administrators	2	6.50	2.12	1	10.00	--
Teacher Leaders	4	8.75	.50	2	10.00	0.00
Teachers	15	9.67	2.79	10	10.20	1.69
B-1	8	6.75	1.91	5	7.00	1.73
Administrators	1	4.00	--	1	4.00	--
Teacher Leaders	1	4.00	--	0	--	--
Teachers	6	7.67	1.03	4	7.75	0.50
B-2	6	7.33	2.16	11	6.00	1.67
Administrators	1	4.00	--	2	6.50	2.12
Teacher Leaders	3	8.33	1.53	3	6.67	.58
Teachers	2	7.50	2.12	6	5.50	1.97
C-1	13	9.00	2.38	21	8.81	2.04
Administrators	3	8.67	2.08	3	6.67	2.31
Teacher Leaders	7	8.86	2.97	8	9.38	1.30
Teachers	4	9.75	1.26	12	9.08	2.11

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained four items. Possible range for the scale was 4 to 20.

The possible range on the District Context scale was 4 to 20, where lower scores indicated higher levels of district support for and alignment to MOWR. The school site with the lowest mean score on the pre survey for all respondents on the District Context scale was school site B-1 (M=6.75, SD=1.91). For all respondents the mean response at school site B-1 fell between *strongly agree* and *agree*. School site B-2 had the lowest mean score for this scale on the post survey for all respondents (M=6.00, SD=1.67). Responses for all respondents fell between *strongly agree* and *agree.*

School site B-2 had the lowest mean score for teacher responses for the pre survey (M=7.50, SD=2.12) and the post survey (M=5.50, SD=1.97). For both surveys, the mean teacher response fell between *strongly agree* and *agree.*

The school site with the highest mean score on the pre survey for all respondents on the School District scale was school site A-2 (M=9.25, SD=2.63). This same school site had the highest mean score on the post survey for all respondents (M=9.79, SD=1.97). For all respondents the mean response for both the pre and post survey fell directly between *agree* and *neither agree nor disagree.*

Teachers at school sites A-1 (M=10.20, SD=2.04) and school site A-2 (M=10.20, SD=1.69) yielded the same high mean score on the District Context scale out of teacher respondents for all school sites. The mean response for teachers at school sites A-1 and A-2 fell between *agree* and *neither agree nor disagree.* Table 8 contains the descriptive statistics for the School Capacity scale.

102

Table 8

Descriptive Statistics for School Capacity Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	23	13.52	3.26	16	15.00	3.18
Administrators	3	10.67	.58	0	--	--
Teacher Leaders	7	14.14	3.08	5	14.60	3.44
Teachers	14	13.93	3.38	10	15.20	3.39
A-2	20	15.85	5.20	14	15.86	3.90
Administrators	2	12.00	2.83	1	14.00	
Teacher Leaders	4	17.75	4.65	2	21.00	5.66
Teachers	15	16.27	5.56	10	15.50	3.06
B-1	8	13.50	5.15	5	15.20	7.66
Administrators	1	7.00	--	1	6.00	--
Teacher Leaders	1	6.00	--	0	--	--
Teachers	6	15.83	3.31	4	17.50	6.56
B-2	6	11.83	3.71	11	10.36	3.61
Administrators	1	6.00	--	2	11.00	2.83
Teacher Leaders	3	13.67	2.87	3	12.00	5.00
Teachers	2	12.00	2.83	6	9.33	3.39
C-1	12	14.92	4.56	21	16.10	4.35
Administrators	3	13.00	3.46	3	11.00	4.36
Teacher Leaders	6	14.00	4.94	8	15.63	4.24
Teachers	4	19.00	2.94	12	17.67	3.20

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained six items. Possible range for the scale was 6 to 30.

The possible range on the School Capacity scale was 6 to 30, where lower scores indicated higher levels of school capacity to undertake the MOWR reform. The school site with the lowest mean score on the pre survey for all respondents on the School Capacity scale was school site B-2 (M=11.83, SD=3.71). For all respondents the mean response at school site B-2 fell between *strongly agree* and *agree*, but most closely to *agree*. School site B-2 also had the lowest mean score for this scale on the post survey for all respondents (M=10.36, SD=3.61). For all respondents the mean response fell between *strongly agree* and *agree.*

School site B-2 had the lowest mean score for teacher responses for the pre survey (M=12.00, SD=2.83) and the post survey (M=9.33, SD=3.39). The mean teacher response on the pre survey at school site B-2 fell at *agree*. On the post survey, the mean teacher response was slightly more favorable and fell between *strongly agree* and *agree.*

The school site with the highest mean score on the pre survey for all respondents on the School Capacity scale was school site A-2 (M=15.85, SD=5.20). For all respondents the mean response fell nearly directly between *agree* and *neither agree nor disagree.* However, the school site with the highest mean score on the post survey for all respondents was school site C-1 (M=16.10, SD=4.35). Similar to school site A-2, for all respondents the mean response on the post survey at school site C-1 fell nearly directly between *agree* and *neither agree nor disagree.*

While school site C-1 did not have the highest mean score on the School

Capacity scale for all respondents on the pre survey, it did for teachers (M=19.00,

SD=2.94). School site C-1 also had the highest mean score for teacher

respondents on the post survey (M=17.67, SD=3.20). Teachers at school site B-1

also yielded a similar high mean score (M=17.50, SD=6.56). The mean teacher

response fell between *agree* and *neither agree nor disagree*, but was much closer

to *neither agree nor disagree.* Table 9 contains the descriptive statistics for the

Selection Process scale.

Table 9

Descriptive Statistics for Selection Process Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	23	12.30	3.38	16	13.25	1.91
Administrators	3	7.33	3.51	0	--	--
Teacher Leaders	7	12.14	1.95	5	12.80	1.64
Teachers	14	13.43	2.93	10	13.30	1.89
A-2	20	12.40	3.87	14	13.57	3.55
Administrators	2	8.00	5.66	1	14.00	--
Teacher Leaders	4	11.25	2.36	2	15.00	2.83
Teachers	15	13.20	3.63	10	13.50	4.01
B-1	8	11.13	3.76	5	11.60	5.59
Administrators	1	4.00	--	1	4.00	--
Teacher Leaders	1	8.00	--	0	--	--
Teachers	6	12.83	2.04	4	13.50	4.20
B-2	6	9.50	4.59	11	9.64	3.83
Administrators	1	4.00	--	2	8.50	.71
Teacher Leaders	3	12.00	2.65	3	12.67	2.52
Teachers	2	8.50	6.36	6	8.50	4.37
C-1	12	10.92	5.09	20	12.95	4.07
Administrators	3	6.33	4.04	3	6.67	4.62
Teacher Leaders	6	11.83	4.67	8	13.38	1.60
Teachers	4	14.50	4.51	11	14.45	3.39

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained four items. Possible range for the scale was 4 to 20.

The possible range on the Selection Process scale was 4 to 20, where lower scores indicated higher levels of buy-in and engagement in the adoption and development of MOWR. The school site with the lowest mean score on the pre survey for all respondents on the Selection Process scale was school site B-2 (M=9.50, SD=4.59). For all respondents the mean response at school site B-2 fell between *agree* and *neither agree nor disagree*. School site B-2 also had the lowest mean score for this scale on the post survey for all respondents (M=9.64, SD=3.83). Again, for all respondents the mean response fell between *agree* and *neither agree nor disagree*.

School site B-2 had the lowest mean score for teacher responses for the pre survey (M=8.50, SD=6.36) and the post survey (M=8.50, SD=4.37). The mean teacher response on the pre and post survey at school site B-2 fell at *agree.*

The school site with the highest mean score on the pre survey for all respondents on the Selection Process scale was school site A-2 (M=12.40, SD=3.87). For all respondents the mean response fell between *neither agree nor disagree* and *disagree*, but closer to *neither agree nor disagree.* School site A-2 also had the highest mean score for all respondents on the post survey for this scale (M=13.57, SD=3.55). For all respondents the mean response was less favorable than in the pre survey, with the mean response falling nearly directly between *neither agree nor disagree* and *disagree.*

For teacher respondents, school site C-1 had the highest mean score on the Selection Process scale for all teacher respondents on the pre survey (M=14.50,

SD=4.51) and the post survey (M=14.45, SD=3.39). The mean teacher response

on the pre and post survey fell between *neither agree nor disagree* and *disagree,*

but was slightly closer to *disagree.* Table 10 contains the descriptive statistics for

the BES Design and Support scale.

Table 10

Descriptive Statistics for BES Design and Support Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	22	8.82	1.76	15	8.93	1.91
Administrators	2	7.50	.71	0	--	--
Teacher Leaders	7	8.29	1.50	5	8.40	1.14
Teachers	14	9.29	1.82	10	9.20	2.20
A-2	20	9.35	2.52	14	9.43	1.70
Administrators	2	9.50	.71	1	9.00	--
Teacher Leaders	4	11.00	3.65	2	8.50	.71
Teachers	15	9.13	2.42	10	9.60	1.96
B-1	8	8.38	2.45	5	9.20	4.15
Administrators	1	7.00	--	1	3.00	--
Teacher Leaders	1	3.00	--	0	--	--
Teachers	6	9.50	0.84	4	10.75	2.63
B-2	6	7.83	2.93	9	6.33	2.83
Administrators	1	5.00	--	2	9.00	0.00
Teacher Leaders	3	8.00	2.65	3	7.67	3.21
Teachers	2	9.00	4.24	4	4.00	0.82
C-1	11	9.27	2.57	19	9.79	2.10
Administrators	2	8.50	.71	3	8.67	.58
Teacher Leaders	6	9.67	3.01	7	10.86	2.27
Teachers	4	10.50	3.87	11	9.27	1.85

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained three items. Possible range for the scale was 3 to 15.

The possible range on the BES Design and Support scale was 3 to 15, where lower scores indicated higher perceptions of extent of timeliness of BES training, quality of BES training, and level of support provided by the BES provider. The school site with the lowest mean score on the pre survey for all respondents on the BES Design and Support scale was school site B-2 (M=7.83, SD=2.93). For all respondents the mean response at school site B-2 fell between *agree* and *neither agree nor disagree*. School site B-2 also had the lowest mean score for this scale on the post survey for all respondents (M=6.33, SD=2.83). For all respondents the mean response on the post survey at school site B-2 fell between *agree* and *neither agree nor disagree*, but were closer to *agree.*

School site B-2 had the lowest score for mean teacher response for the pre survey (M=9.00, SD=4.24) and the post survey (M=4.00, SD=0.82) on the BES Design and Support scale. The mean teacher response on the pre survey at school site B-2 fell at *neither disagree nor agree*. Responses were more favorable on the post survey with the mean teacher response falling between *strongly agree* and *agree*. With the exception of school site B-2, the mean teacher response on the post survey at all other school sites fell near *neither disagree nor agree* on the BES Design and Support scale.

The school site with the highest mean score on the pre survey for all respondents on the BES Design and Support scale was school site A-2 (M=9.35, SD=2.52). Responses for all respondents fell between *neither agree nor disagree* and *disagree,* but closest to *neither agree nor disagree.* The school site with the

highest mean score on the post survey for all respondents on the BES Design and Support scale was school site C-1 (M=9.79, SD=2.10). For all respondents the mean response fell between *neither agree nor disagree* and *disagree.*

For teacher respondents, school site C-1 had the highest mean score on the BES Design and Support scale for all teacher respondents on the pre survey (M=10.50, SD=3.87) and school site A-2 had the highest mean score for the post survey (M=9.60, SD=1.96). The mean teacher responses on the pre and post survey fell between *neither agree nor disagree* and *disagree.* Table 11 contains the descriptive statistics for the MOWR Design scale.

Table 11

Descriptive Statistics for MOWR Design Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	22	14.14	4.75	15	15.00	4.54
Administrators	2	7.00	1.41	0	--	--
Teacher Leaders	7	13.43	4.16	5	12.80	4.32
Teachers	14	15.64	4.25	10	16.20	4.37
A-2	19	15.32	4.82	14	14.79	3.70
Administrators	2	13.00	0.00	1	13.00	--
Teacher Leaders	4	17.25	4.79	2	15.50	3.54
Teachers	14	15.36	5.09	10	14.50	4.09
B-1	8	13.25	6.02	5	17.60	8.97
Administrators	1	6.00	--	1	6.00	--
Teacher Leaders	1	6.00	--	0	--	--
Teachers	6	15.67	4.76	4	20.50	7.14
B-2	6	12.33	4.46	10	10.30	3.27
Administrators	1	6.00	--	2	10.50	.71
Teacher Leaders	3	12.00	0.00	3	11.00	5.00
Teachers	2	16.00	5.67	5	9.80	3.27
C-1	11	16.09	5.20	19	17.26	6.04
Administrators	2	13.00	7.07	3	9.33	4.16
Teacher Leaders	6	16.33	5.31	7	18.71	6.05
Teachers	4	19.25	5.25	11	18.81	4.79

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained six items. Possible range for the scale was 6 to 30.

The possible range on the MOWR Design scale was 6 to 30, where lower scores indicated greater support for the MOWR reform and understanding of the model. The school site with the lowest mean score on the pre survey for all respondents on the MOWR Design scale was school site B-2 (M=12.33, SD=4.46). For all respondents the mean response at the school site fell between *agree* and *neither agree nor disagree*, but was closest to *agree*. School site B-2 also had the lowest mean score on the MOWR Design scale on the post survey for all respondents (M=10.33, SD=3.27). For all respondents the mean response on the post survey at school site B-2 was more favorable than on the pre survey, falling between *strongly agree* and *agree*.

School site A-2 had the lowest mean score for teacher responses for the pre survey (M=15.36, SD=5.09). The mean teacher response on the pre survey at school site A-2 fell between *agree* and *neither disagree nor agree*. School site B-2 had the lowest mean score for teacher responses for the post survey (M=9.80, SD=5.09). The mean teacher responses on the post survey at school site B-2 fell between *strongly agree* and *agree*.

The school site with the highest mean score on the pre survey for all respondents on the MOWR Design scale was school site C-1 (M=16.09, SD=5.20). For all respondents the mean response fell between *agree* and *neither disagree nor agree*. The school site with the highest mean score on the post survey for all respondents on the MOWR Design scale was school site B-1

113

(M=17.60, SD=8.97). For all respondents the mean response fell between *agree* and *neither disagree nor agree.*

For teacher respondents, school site C-1 had the highest mean score on the MOWR Design scale for all teacher respondents on the pre survey (M=19.25, SD=5.25) and school site B-1 had the highest mean score for teacher respondents on the post survey (M=20.50, SD=7.14). The mean teacher responses on the pre and post survey fell between *neither agree nor disagree* and *disagree.* Table 12 contains the descriptive statistics for the Teaching Efficacy scale.

Table 12

Descriptive Statistics for Teaching Efficacy Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	22	16.05	6.08	15	16.27	5.31
Administrators	2	12.00	1.41	0	--	--
Teacher Leaders	7	13.14	4.41	5	13.00	2.74
Teachers	14	18.14	6.24	10	17.50	5.97
A-2	20	16.10	6.34	14	19.07	5.15
Administrators	2	18.00	15.55	1	24.00	13.00
Teacher Leaders	4	16.25	5.50	2	19.00	5.66
Teachers	15	15.73	5.50	10	18.80	5.61
B-1	8	13.38	4.78	5	14.40	2.07
Administrators	1	6.00	--	1	15.00	--
Teacher Leaders	1	9.00	--	0	--	--
Teachers	6	15.33	3.56	4	14.25	2.36
B-2	6	12.00	4.98	10	13.50	4.70
Administrators	1	5.00	--	2	10.50	7.78
Teacher Leaders	3	15.33	4.04	3	12.33	1.53
Teachers	2	10.50	2.12	5	15.40	4.83
C-1	11	14.82	6.05	17	15.89	5.79
Administrators	2	14.00	8.49	3	16.00	8.72
Teacher Leaders	6	13.83	6.04	7	13.00	6.58
Teachers	4	17.25	5.32	9	18.78	3.67

Note. Items were 6-point Likert scale questions. Items were reverse scored so that items ranged from *1 = strongly agree* to *6 = strongly disagree*. The scale contained five items. Possible range for the scale was 5 to 30.

The possible range on the Teaching Efficacy scale was 5 to 30, where lower scores indicated greater teaching efficacy, or the extent to which one believes teachers can overcome factors external to the teacher and classroom. The school site with the lowest mean score on the pre survey for all respondents on the Teaching Efficacy scale was school site B-2 (M=12.00, SD=4.98). School site B-2 also had the lowest mean score on the Teaching Efficacy scale on the post survey for all respondents (M=13.50, SD=4.70). For all respondents the mean response at the school site for both the pre and post survey fell between *moderately agree* and *agree slightly more than disagree*.

School site B-2 had the lowest mean score for teacher responses for the pre survey (M=10.50, SD=2.12) and the post survey (M=15.40, SD=4.83). The mean teacher response on the pre survey at school site B-2 fell between *moderately agree* and *agree slightly more than disagree.* The mean teacher response on the post survey at school site B-2 fell between *agree slightly more than disagree* and *disagree slightly more than agree*, but was closest to *agree slightly more than disagree.*

School site A-2 had the highest mean score on the pre survey for all respondents on the Teaching Efficacy scale (M=16.10, SD=6.34) and the highest mean score on the post survey (M=19.07, SD=5.15). On the pre survey for all respondents the mean response fell between *agree slightly more than disagree* and *disagree slightly more than agree*, but was closest to *agree slightly more than disagree.* On the post survey the mean response fell between *agree slightly more*

116

than disagree and *disagree slightly more than agree*, but was closest to *disagree slightly more than agree.*

For teacher respondents, school site A-1 had the highest mean score on the Teaching Efficacy scale for all teacher respondents on the pre survey (M=18.14, SD=6.24) and school site A-2 had the highest mean score for teacher respondents on the post survey (M=18.80, SD=5.61). The mean teacher response on the post survey for school site A-2 was similar to the mean teacher response on the post survey for school site C-1 (M=18.78, SD=3.67). The mean teacher response on the Teaching Efficacy scale at school sites A-1, A-2, and C-1 fell between *agree slightly more than disagree* and *disagree slightly more than agree.* Table 13 contains the descriptive statistics for the Personal Efficacy scale.

Table 13

Descriptive Statistics for Personal Efficacy Scale

School	Pre Survey			Post Survey		
	n	Mean	SD	n	Mean	SD
A-1	22	11.41	4.60	15	11.00	2.83
Administrators	2	8.50	2.12	0	--	--
Teacher Leaders	7	11.00	3.65	5	10.40	2.19
Teachers	14	12.07	5.08	10	11.40	3.10
A-2	20	11.50	2.65	14	12.50	2.28
Administrators	2	11.00	0.00	1	13.00	--
Teacher Leaders	4	12.00	2.94	2	12.00	1.41
Teachers	15	11.40	2.75	10	12.30	2.54
B-1	8	11.38	4.66	5	11.80	3.27
Administrators	1	6.00	--	1	6.00	--
Teacher Leaders	1	5.00	--	0	--	--
Teachers	6	13.33	3.44	4	13.25	0.50
B-2	6	9.00	2.53	10	9.90	4.09
Administrators	1	7.00	--	2	6.50	2.12
Teacher Leaders	3	8.33	2.87	3	9.00	1.00
Teachers	2	11.00	1.41	5	11.80	5.02
C-1	11	10.18	3.06	17	11.29	4.57
Administrators	2	8.50	2.12	3	9.00	1.73
Teacher Leaders	6	11.00	3.85	7	13.00	5.74
Teachers	4	8.50	2.65	9	10.33	3.46

Note. Items were 6-point Likert scale questions. Items ranged from *1 = strongly agree* to *6 = strongly disagree*. The scale contained five items. Possible range for the scale was 5 to 30.

The possible range on the Personal Efficacy scale was 5 to 30, where lower scores indicated greater personal efficacy, or greater perceptions of one's own capabilities to foster students' learning and engagement. The school site with the lowest mean score on the pre survey for all respondents on the Personal Efficacy scale was school site B-2 (M=9.00, SD=2.53). School site B-2 also had the lowest mean score on the Personal Efficacy scale on the post survey for all respondents (M=9.90, SD=4.09). For all respondents the mean response at school site B-2 for both the pre and post survey fell between *strongly agree* and *moderately agree*.

School site C-1 had the lowest mean score for teacher responses for the pre survey (M=8.50, SD=2.65) and the post survey (M=13.33, SD=3.46). The mean teacher response on the pre survey at school site C-1 fell between *strongly agree* and *moderately agree*. The mean teacher response on the post survey at school site C-1 fell between *moderately agree* and *agree*.

School site A-2 had the highest mean score on the pre survey for all respondents on the Personal Efficacy scale (M=11.50, SD=2.65) and the highest mean score on the post survey (M=12.50, SD=2.28). For all respondents the mean response on the pre and post survey fell between *moderately agree* and *agree slightly more than disagree*.

For teacher respondents, school site A-1 had the highest mean score on the Personal Efficacy scale for all teacher respondents on the pre survey (M=12.07, SD=5.08) and school site B-1 had the highest mean score for teacher respondents

119

on the post survey (M=13.25, SD=0.50). For both school sites with the highest

score for teacher respondents on the Teaching Efficacy scale for the pre and post

survey, the mean teacher response fell between *moderately agree* and *agree*

slightly more than disagree.

Summary and Interpretation of Initial Quantitative Data Analysis Findings

A holistic examination of the findings from the pre and post survey results

suggests responses were relatively favorable for most scales. For all respondents

at each school site, the mean response fell somewhere along the continuum of

agree for five of the eight scales. The mean response was most favorable on the

scales for MOWR and BES Implementation, District Context, School Capacity,

MOWR Design, and Personal Efficacy. The mean response for all respondents at

all schools was least favorable on the scales for Selection Process, BES Design

and Support, and Teaching Efficacy. For all respondents at each school site, the

mean response fell between *neither agree nor disagree* and *disagree* on these

scales. No mean response fell between *disagree* and *strongly disagree* on any

scale for any school as a whole or by school position. This suggests that all five

schools are implementing MOWR at least to some extent, there is district support

for the initiative, there is school capacity to take on the implementation of the

reform, and there is support for and understanding of MOWR. The findings

suggest that schools had greater personal efficacy than teaching efficacy,

indicating that teachers perceive they have the ability to foster student learning

and engagement. The less than favorable response for selection process suggests

120

that schools might not have had opportunities to choose to adopt MOWR or the BES option at their school or that there is lack of fit of the reform with the school goals. Similarly, the less than favorable response for BES design and support suggests that schools may have faced challenges with or been less than satisfied with the timeliness of BES training, the quality of the training, or the level of continued support from the provider.

In general, administrators at all schools reported slightly more favorable responses on all scales than teachers. This is not surprising as the administrators were most likely engaged in MOWR longer than the teachers.

An independent-samples t test was performed to evaluate the difference of the means for each survey scale for each school for all respondents. Results indicated no statistically significant difference between the pre and post survey results on any survey scale for any school. This suggests that perceptions for each construct measured by each scale remained relatively constant within individual schools sites. This was expected given the surveys were administered only five months apart.

Identification of School Sites for Full Case Study Development

Through the quantitative descriptive analysis, school site B-2 emerged as the school site that indicated higher reported levels of MOWR and BES implementation and consistently indicated more favorable perceptions on all other scales. School site C-1 was identified as the school site with the lowest reported levels of MOWR and BES implementation out of the five school sites. School

site A-2 and C-1 consistently emerged as the school sites with the least favorable perceptions on the remaining scales.

A decision was made to utilize the MOWR and BES Implementation scale for determining the schools sites for full case study development. The rationale was that by identifying the two school sites that emerged on the extremes of the MOWR and BES Implementation scale and then completing a full case study development for these two sites, I could then begin to better understand to what extent and in what ways MOWR was being implemented. In turn, this would potentially allow for a deeper examination of the factors that appear to either enhance or impede the MOWR and BES implementation along with the ways CFA influenced the implementation process, thus more fully answering the research questions that guided this study.

A second decision was made to only utilize post survey results for more in-depth within-case and cross-case analysis as opposed to examining pre survey results or pre and post survey results together. The rationale for this decision was based on two factors: (1) the quantitative data analysis finding that there were no significant differences between pre and post survey results for any school site on any scale; and (2) the post survey results reflected the most current school perceptions relative to MOWR, which, from an action research standpoint, would be most useful to focus upon in informing next steps relative to supporting the school sites and the overall MOWR initiative.

With the decision made to utilize the MOWR and BES Implementation scale and post survey results in identifying two case sites for full case study development, an independent-samples t test was conducted on the post survey results for school sites B-2 and C-1 to evaluate the difference of the means for the MOWR and BES Implementation scale. The possible range on the MOWR and BES Implementation scale was 10 to 50, where lower scores indicated higher levels of implementation. There was a significant difference in the mean scores for all respondents at school site B-2 (M=19.20, SD=6.11) and school site C-1 (M=31.00, SD=5.28); t (27) = -5.42, p=.001, one-tailed, d = -2.09. A significant difference was also found in the mean scores for teacher respondents at school site B-2 (M=16.40, SD=3.58) and school site C-1 (M=30.90, SD=5.45); t (14) = -5.40, p=.001, one-tailed, d = -2.89. These results suggest that respondents at school site B-2 expressed significantly higher levels of MOWR and BES implementation than those at school site C-1. Table 14 shows the results reported for all respondents and for teacher respondents at school sites B-2 and C-1.

Table 14

Comparison of Post Survey Results for School Site B-2 and C-1 on MOWR and BES Implementation

Variable	n	Mean	SD	t	df	p value
MOWR and BES Implementation						
All Respondents				-5.42	27	.001
Site B-2	10	19.20	6.11			
Site C-1	19	31.00	5.28			
Teacher Respondents				-5.40	14	.001
Site B-2	5	16.40	3.58			
Site C-1	11	30.90	5.45			

Based on the results of the independent-samples t test, school sites B-2 and C-1 were selected to serve as the two school sites for full case study development in order to more fully answer the research questions guiding this study. The two case studies are presented in the next section of this chapter. For the purposes of this study, pseudonyms were assigned to each case study site and to the individual participants involved. The narrative structure of each case study is grounded in the three research questions for this study and guided by the trends and patterns that emerged from the quantitative data from the school survey results. The trends and patterns are then further described and understood through the qualitative data presented from the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and a review of site documents. Additional cross-case data collection included

MOWR Learning Collaborative observations (five meetings) and a focus group

with MOWR non-school actors. Qualitative data from each of the case study

instruments was coded and categorized utilizing the constructs identified within

the conceptual framework of this study. Sub categories were derived from

distinctions suggested in the data. Repeating ideas were then identified for each

sub category followed by patterns and themes.

School Case Study – School Site B-2 "Agave High School"

      Introduction to Agave High School. My first introduction to Agave

High School in connection to the MOWR effort was in September 2010 when I

was invited to make a presentation on MOWR and the Cambridge International

Examinations program to a planning committee focused on making a curriculum

decision for a new high school that would open in fall 2011 with grade 9 students.

For the purposes of this study, I spent eight months learning about this school

beginning in July 2011 when the school first agreed to participate in the study.

Over the course of the eight months, I administered two school surveys (October

2011 and February 2012), participated in four school site visits, collected a variety

of school documents, and recorded and transcribed two school level design team

meetings that resulted in 64 transcribed pages of text that were then coded.

During January 2012 and February 2012, interviews were conducted and recorded

with two teachers, a school administrator, and a charter network administrator.

Each interview lasted between fifteen and twenty minutes. During the eight

months of the study, monthly MOWR Learning Collaborative meetings were held

in which Agave High School administrators and, in some instances, teachers and counselors participated, providing additional sources of data utilized in this study for the purpose of confirming and disconfirming data. Six MOWR Learning Collaborative meetings were held. These meetings were recorded and transcribed into 150 pages of text that were then coded. Given the nature of this participatory action research study, initial data analyses were shared and discussed formally and informally with Agave High School administration throughout the course of the study.

Background and characteristics. Established in 2011, Agave High School is one of two public charter schools that are part of a charter network affiliated with a major university in Arizona. Agave High School prides itself in its aim to prepare students to graduate from college as opposed to preparing students to graduate from high school. Prominently featured on the school web site and informational materials is the school's mission statement: "At [Agave High School] we believe that all students can achieve a four-year university degree. We prepare our students for success with personalized attention in a university-embedded academic program that empowers them to complete college, compete globally, and contribute to their communities." Four pillars guide the school: (1) Academic - International Standards of Academic Excellence; (2) Partnership - Family, Community, and University Partnership; (3) Leadership and Civic Responsibility; and (4) Innovation and Social Entrepreneurship. Through

126

its connection with a university, the school is intended to serve as an educational community where new innovations are developed, implemented, and assessed.

Agave High School is located in the downtown area of an urban city in Arizona and is run in partnership by a university and a nearby elementary school district. The high school is part of the K-8 Agave Elementary School campus (under the same charter and school leadership) that opened in 2009, serving at the time 550 students grades preK-8. Starting in fall 2011, the school was open to high school freshman and will eventually extend to serve students grades 10-12. The school currently serves approximately 120 grade 9 students. The school is described by administration as a neighborhood school, primarily serving students from a low-income neighborhood in which the school is situated (Agave High School design team meeting, October 24, 2011).

The school has a welcoming environment. Each time I visited the school I couldn't help but notice the relationships that administrators and staff had established with students. During each site visit I observed administrators and teachers talking with students by name during passing periods, inquiring about families, and encouraging academic pursuits. Administrators would frequently point to an individual student during passing periods or after school and tell me a specific story about his or her academic or personal situation. Visitors are welcomed and encouraged to visit classrooms. Teachers and students alike seem very comfortable with classroom visitors. The building itself is a very large well-kept school facility that in years past had served as a middle school within a

127

traditional district school. The school follows a modified year-round calendar with breaks in October, December, March, and June. School hours are 7:45 a.m. to 4:15 p.m. Monday through Friday. The high school runs a modified block schedule with four class periods a day that meet for 90 minutes every other day. In additional to core academic classes, students have a learning lab every day following a brief lunch. The learning lab meets for 60 minutes and is intended for remediation or acceleration based on student academic need. Grade 9 students also have a writing and research course that meets every other day for 90 minutes and is designed to support their writing and reading skills across the curriculum. The school offers extended day programs and Saturday school. Students are graded on a traditional grading scale based on mastery of concepts as opposed to accumulation of points based on work completed. Students have grade point averages and class rankings like traditional schools.

Agave High School adopted the Cambridge International General Certificate for Secondary Education (IGCSE) curriculum from Cambridge International Examinations as the curriculum for all grade 9 students. The school is in the process of implementing a Cambridge middle years curriculum known as Cambridge Secondary 1 for all students in middle school. Cambridge IGCSE is one of the Arizona State Board of Education approved BES options for MOWR. The Cambridge IGCSE courses offered this year at Agave High School to all grade 9 students as part of the MOWR initiative are: First Language English, World History, Mathematics, and Coordinated Science. In addition to core

academic courses, all students participate in learning lab, the writing and research course, and in a capstone course. In the capstone course students study the pillars of leadership, social entrepreneurship, partnerships, and academic preparation and develop a yearly capstone project.

      Student and staff demographics. According to the annual Arizona Department of Education School Fast Fact Sheets for the School Year 2010-2011, Agave High School enrolled 481 students grades K-8. As shown in Table 15, the reported student demographics are 14% African American, 74% Hispanic, and 10% White. The school qualifies as a Title 1 school and 65% of students qualify for the federal free or reduced lunch program. There are two Structured English Immersion (SEI) classrooms.

Table 15

Agave High School Demographic Characteristics, 2010-2011

Characteristic	%
Student Race	
Asian	0%
African American	14%
Hispanic	74%
Native American	0%
White	10%
Multi-Racial	0%
Core Academic Teacher Education	
Bachelors	37%
Masters	63%
Doctorate	0%
Core Academic Teacher Highly Qualified Status	
Not Highly Qualified	5%
Highly Qualified	95%

Note. From Arizona Department of Education School Fast Fact Sheets for the School Year 2010-2011. Student enrollment N=481. Student enrollment spans grades K-9. Core academic teachers N=19.

Reported on the annual Arizona Department of Education School Fast Fact Sheets for the School Year 2010-2011, Agave High School employs 19 core academic teachers. As of the 2010-2011 school year, approximately half of the staff has less seven years teaching experience and of the total teacher population, 95% are highly qualified. Administration for the entire school includes a chief administrator, a director of early childhood, a director of adolescent learning, a

dean of students, and a director of family and community engagement. The chief

administrator and director of adolescent learning are new to the school within the

last year. The director of adolescent learning serves in the capacity of the

secondary principal for grades 5-9.

School's overall academic achievement. Agave High School did not

make the federal Adequate Yearly Progress (AYP) goal in 2010-2011 and is

currently in year one of Title 1 School Improvement. In response to not making

AYP, the school has replaced a large percentage of the teaching staff, hired

additional classroom instructional assistants, hired a dean of students, hired an

additional administrator, hired a professor in residence to supervise ongoing

professional development, increased instructional time, hired content area

specialist for teachers in grades 5 – 9, and has obtained a math and reading

program to provide assistance to struggling students (2011-2012 school

handbook). Table 16 shows student performance on the statewide Arizona

Instrument to Measure Standards (AIMS).

Table 16

Agave High School AIMS Data (Percent Meeting/Exceeding), 2010-2011

Cohort/Grade	Math	Reading	Writing	Science
3rd	38	44	--	--
4th	28	54	--	33
5th	29	63	37	--
6th	70	84	52	--
7th	44	72	43	--
8th	29	48	--	35

Note. Students in grades 3, 4, and 8 do not take the AIMS writing test. Students in grades 3, 5, 6, and 7 do not take the AIMS science test.

No data are reported for high school AIMS. The school did not serve grade 9

students during the 2010-2011 academic year.

Agave High School study survey participant description. As

participants in this study, Agave High School administrators, teacher leaders, and

grade 9 teachers were invited to take an electronically administered survey in

October 2011 and again in January 2012. As explained earlier in this chapter,

given no significant differences were found between pre and post survey results,

the post survey results are the primary quantitative data described within the case

study. At Agave High School, there were 12 post survey participants. As shown

in Table 17, the majority of study participants were female, white, and had less

than four years of experience in their position.

Table 17

Agave High School Post Survey Participant Demographics (N=12)

Characteristic	%
Gender	
Male	8.3%
Female	91.7%
Race	
African American	0%
American Indian	0%
Asian	0%
Hispanic	16.7%
Multiracial	0%
Pacific Islander	0%
White	75.0%
Other	0%
Current position	
Administrator	16.7%
Teacher Leader	33.3%
Teacher	58.3%
Years in current position	
1 – 4 years	66.7%
5 – 10 years	16.7%
11 – 16 years	0%
17 – 24 years	8.3%
25 – 35 years	8.3%
Grade level currently teaching	
Grade 9	83.3%
Grade 10	0%
Grade 11	0%
Grade 12	0%
Not Teaching	16.7%

Table 18 shows the subjects taught by the Agave High School respondents who participated in the MOWR post survey. The majority of the participants taught core academic courses, although two individuals indicated they were not teaching and two others indicated "other." It is likely that some of these respondents were administrators.

Table 18

Agave High School Post Survey Participant Response for Subject Taught

Subject Taught	#
English	2
Math	1
Social Studies/History	2
Science	2
Foreign Language	2
Visual and Performing Arts	0
Yearbook/Newspaper	0
Physical Education	0
Technology	0
Business	0
Vocational	0
Special Education	0
English as a Second Language	0
Other	2
Not Teaching	2

Note. N=12. Total response does not total the N because some respondents indicated they taught more than one subject.

Research question 1.1. The first research question addressed in this case study was "To what extent and in what ways is MOWR being implemented at the

local school level?" The instruments used to answer this research question were the MOWR school level survey questions related to implementation of MOWR and BES, the MOWR school level design team observations (64 pages transcribed), school site visit observations, teacher and administrator interviews, and a review of school documents. Additional cross-case data collection included MOWR Learning Collaborative observations (150 pages transcribed). All meetings were recorded and transcribed. The findings are discussed below within this section.

Ten questions in the MOWR school level survey concentrated on perceptions of MOWR and BES implementation. As described earlier within this chapter, a scale was developed for the construct of implementation. Post survey results on the MOWR and BES Implementation scale for Agave High School are reported below in Table 19.

Table 19

Post-Test Survey Results for Agave High School (Site B-2) on MOWR and BES Implementation Scale

Respondents	n	Mean	SD
All Respondents	10	19.20	6.10
Administrators	2	22.00	8.49
Teacher Leaders	3	22.00	8.19
Teachers	5	16.40	3.58

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained 10 items. Possible range for the scale was 10 to 50.

For all respondents the mean response fell closest to *agree (M=19.20, SD=6.42).* Administrators and teacher leaders reported slightly less favorable

responses for implementation, with mean responses falling slightly below *agree*.

Teachers on the other hand reported more favorable responses, with mean responses falling between *strongly agree* and *agree*. An independent-samples t test performed revealed that the mean teacher response on the post survey for the BES and MOWR Implementation scale (M=16.40, SD 3.58) when compared to the mean teacher response for the same scale on the pre survey (M=26.00, SD 5.66) appeared to be significantly different t (5) = 2.8, p=.03.

 Extent of implementation. In order to address the aspect of research question 1.1 that focused on extent of implementation, an item analysis was completed for the six survey questions that specifically addressed extent of program fidelity, student participation and awareness of the reform, and self-reported changes in instructional delivery. Table 20 shows the results of the item analysis for these questions for Agave High School.

Table 20

Post-Test Survey Results for Agave High School (Site B-2) on Extent of Implementation Item Analysis

Item	Respondents	n	Mean	SD
The Board Examination System (Cambridge or ACT QualityCore) course syllabus is consistently used	All Respondents	10	1.70	.82
	Administrators	2	2.00	1.41
	Teacher Leaders	3	1.67	.58
	Teachers	5	1.60	.89
Students are aware of the Board Examination System curriculum	All Respondents	10	1.90	.74
	Administrators	2	2.00	1.41
	Teacher Leaders	3	2.00	1.00
	Teachers	5	1.80	.45
Students are aware of the option to qualify for a Grand Canyon High School Diploma	All Respondents	10	2.20	.63
	Administrators	2	2.50	.71
	Teacher Leaders	3	2.33	.58
	Teachers	5	2.00	.71
All students in Grade 9 are enrolled in Board Examination System courses in my department	All Respondents	10	1.70	.82
	Administrators	2	2.00	1.41
	Teacher Leaders	3	2.00	1.00
	Teachers	5	1.40	.55
I have participated in Board Examination System training	All Respondents	10	2.30	1.25
	Administrators	2	3.50	.71
	Teacher Leaders	3	2.67	1.53
	Teachers	5	1.60	.89
My instructional delivery has changed by using the Board Examination System	All Respondents	9	2.11	.928
	Administrators	1	2.00	--
	Teacher Leaders	3	2.33	1.15
	Teachers	5	2.00	1.00

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*.

Respondents responded positively regarding extent of implementation of

MOWR and BES. For each question, the mean response for all respondents fell

closest to *agree*. The most positive response came from teachers when asked to respond to the item, "All students in Grade 9 are enrolled in Board Examination System courses in my department" (M=1.40; SD=.55). Teachers also responded favorably when asked if they attended BES training (M=1.60, SD=.89) and if they use the BES syllabus consistently (M=1.60, SD=.89). The mean response from teachers when asked if their instructional delivery had changed by using the BES was *agree* (M=2.00, SD=1.00). For all questions with the exception of one, the teacher mean response was slightly more favorable than that of the administrators. The one exception was around change in instructional delivery, where both teacher and administrator mean response was the same.

When asked if students are aware of the BES curriculum, mean responses from administrators (M=2.00, SD=1.41) and teachers (M=1.80, SD=.45) fell right at or slightly above *agree*, indicating that they perceive students are in fact aware of the Cambridge curriculum. In comparison, when asked if students are aware of the option to qualify for a Grand Canyon High School Diploma, mean responses were slightly less favorable from teachers (M=2.0, SD=.71) and administrators (M=2.50, SD=.71). This suggests that while students may know of the Grand Canyon High School Diploma, they may be less familiar with it than they are the Cambridge curriculum.

Quantitative analysis of the items that address extent of implementation of MOWR and BES quantitative data at Agave High School reveal evidence that Cambridge curriculum is consistently used, teachers participated in Cambridge

specific training, and instructional delivery changed as a result of the Cambridge instructional system. Results strongly indicate that all students are enrolled in the grade 9 Cambridge curriculum. The results provide evidence that administrators and teachers perceive the students are aware of the curriculum itself. However, results indicate administrators and teachers are less sure that students are aware of the option to qualify for a Grand Canyon High School Diploma.

Ways in which MOWR is being implemented. Findings from the quantitative data analyzed from the school survey coupled with qualitative data analyzed from the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and school documents were utilized in order to further answer research question 1.1, and in particular, what ways MOWR is being implemented at Agave High School. Additional cross-case data from the MOWR Learning Collaborative observations were utilized for confirming and disconfirming evidence. The findings are discussed below within this section.

Focused on implementing the Cambridge Curriculum with fidelity. In this first year of implementation of MOWR, Agave High School administrators and teachers were focused on implementing the Cambridge curriculum with fidelity. The principal described the implementation of the Cambridge curriculum as the most significant thing the school did this year.

> The biggest piece of what we are doing this first year is implementing the
> Cambridge curriculum. And to that end we're participating in training

139

teachers, in supporting teachers in that regard, creating the curriculum for Cambridge, implementing the testing protocols and trying to migrate that teaching and instruction back to our 5th through 9th grade middle school classrooms and preparing our K-4 students to do that deeper thinking that really is what Cambridge is all about. (Agave High School principal interview, January 26, 2012)

The Agave High School principal talked about the implementation of the Cambridge curriculum holistically. For him, it involved teacher professional development, assessment practices, and the influence of the K-8 curriculum. The Cambridge curriculum included the content materials, the content delivery, and the content assessment (Agave High School principal interview, January 26, 2012).

Even though the Cambridge curriculum exists, there was still considerable work to be done at the high school setting to implement it. Discussion between the school principal and the school's chief administrator during a September design team meeting illustrated this. The principal described the daily work that teachers are engaged in order to determine what materials will be utilized, how daily lesson plans will be organized, what formative assessments will used, and how students who are struggling will be remediated.

Chief Administrator: What do you mean by develop the curriculum? Do you mean develop the instructional practices that go with the Cambridge curriculum? Because you're not starting with nothing.

School Principal: Well, of course there's a syllabus, we have our syllabus, but filling in what the materials are that are going to be used, how that daily lesson plan is going to be organized, what you're going to do unit by unit, what materials you're going to use, how you're going to develop your formative assessments, how are you going to remediate skills? How do you deliver?

Chief Administrator: So it's the delivery that you're talking about. We have the curriculum, but you're talking about the specific strategies and materials that deliver the curriculum.

Teachers played an integral part in the development and implementation of the Cambridge curriculum at Agave High School. When asked about the teachers' involvement in the implementation of MOWR, the principal responded, "Teachers are implementing the curriculum. That really is their role" (Agave High School principal interview, January 26, 2012). The administration wanted teachers "to be the developers of the curriculum" (Agave High School principal, design team meeting, September 1, 2011).

The development and implementation of the curriculum was an ongoing and interactive activity. Teachers met in groups, "ensuring they [were] implementing the Cambridge curriculum with fidelity and sharing with their vertical and horizontal teams" (Agave High School principal interview, January 26, 2012).

Whole-school implementation. At Agave High School, MOWR was implemented as a whole-school strategy for all high school students. "Every student gets Cambridge curriculum. It is not a choice curriculum" (district administrator interview, January 26, 2012). The decision to implement the Cambridge curriculum and provide the end-of-course assessment for all students appeared to be based in part on the past experience of the administration. The chief academic officer stated that in her work at other schools she found that teachers often identified only a select number of students to take an end-of-course exam, which had an impact on the program of study for the students.

> One of the things we noticed at some of our previous worlds was that teachers tended to go through the curriculum in advanced programs and then cherry pick students who might be the right students. And so then it just became a nice curriculum, and the smart kids took the test and that really isn't the intent. We don't want to make the test optional. (district administrator, design team meeting, October 24, 2011)

Teachers at Agave High School appeared to also strongly support the whole-school implementation approach. An administrator stated that teachers were resolute in the belief that all students should prepare for and take the end of course Cambridge exams.

> We talked after the big [Cambridge] training with our teachers about all or selecting some and the teachers were really adamant that they really believed everyone should sit [for the exam] and we should be preparing

142

every student to take and be prepared for it. And if we have to have

students who retake in November we can retake in November but then we

would know who needs it and we can do some targeted interventions.

(district administrator, design team meeting, October 24, 2011)

Even though the school implemented MOWR for all students, there were

questions regarding how a whole-school Cambridge model works for students

with special needs. When describing some concerns relative to MOWR, the

school principal said, "I have a few questions about how we address students with

special needs. That's kind of a challenge for me" (Agave High School principal

interview, January 26, 2012).

The topic of special education students with individual education plans

(IEPs) was also discussed earlier in the year during an October 2011 design team

meeting. The chief academic officer for the charter network said, "I mean there

are some students, maybe some special needs students for whom IEP issues may

come into play. That's a separate issue" (design team meeting, October 24,

2011). At the same time, the district chief academic officer said that they don't

truly have any students with severe, profound needs. She said when the

administration asked teachers what they thought about the special education

students participating in Cambridge and taking the exams, the teachers

overwhelmingly came back and said, "No, everyone, we want everyone to have

this" (district administrator, design team meeting, October 24, 2011).

143

A performance-based model. Agave High School took steps to establish

flexible scheduling to facilitate implementation of Cambridge and in particular,

the performance-based aspect of the MOWR model within a whole-school model.

The principal stated that the school came to realize time is the variable within the

MOWR model. Once they discovered this, the school looked at ways to create

additional learning time for students who the needed extra help and to provide

ways for students to accelerate who were ready to move forward.

> One of the dilemmas that we're facing is that if we have every kid end at
>
> the same place at the same time, we find then time becomes a constant, not
>
> a variable. And so we have to end at the end of the year, no matter what
>
> and move on. So what we're trying to do is, for some kids add time, for
>
> some kids move along more quickly. And so while they may be in their
>
> course at the end of the year, we end up having SOAR [advisory] for some
>
> kids, we have a learning lab for other kids, where they'll have two hours
>
> or two-and-a-half hours in math a day, instead of one-and-a-half. (Agave
>
> High School principal, MOWR Learning Collaborative meeting, October
>
> 31, 2011)

In addition to adding more time for learning for some students, Agave

High School made scheduling changes based on student achievement data after

the school year started in order to regroup students (site visit meeting notes,

October 24, 2011). The principal said the teachers regrouped students in grade 9

based on need and how far they had progressed. In doing so, the teachers didn't change the curriculum. Instead, they changed time, depth, and pacing.

> We've totally regrouped and reorganized our ninth graders, just all of them, based on need and how far along they are. So what we found, particularly with our Cambridge curriculum, is that time is a critical factor and some students can move through it at a much quicker pace than other students. And so the teachers decided that they wanted to regroup them. And we've regrouped every kid in ninth grade. And the curriculum isn't different, the only thing that's different is time and depth, pacing. (Agave High School principal, design team meeting, October 24, 2011)

Figuring out how to implement a performance-based model was challenging, particularly for the administrators in working with teachers. During a monthly MOWR Learning Collaborative meeting with other Arizona MOWR schools, the Agave High School principal said, "What was the really difficult part was working with our teachers to realize that students may not end up in the exact same place at the end of the year, but the curriculum that they would be responsible for would be the same" (MOWR Learning Collaborative meeting, October 31, 2011).

Though there is evidence that Agave High School took steps to begin to implement the performance-based aspect of MOWR, they continued to grapple with the complexity of putting this into daily practice. The chief academic officer

145

explained that creating school schedules that are based on student need as opposed to adult preference is particularly challenging.

> The scheduling is incredibly complex . . . For some students moving through the system quickly and for some students it may take more than one year. So when you factor those things in, how do you begin to create schedules that are seamless and allow for that to occur? So schedules become more less about adult convenience and about actual student need and evidence of student need and learning (district administrator interview, January 26, 2012)

Student supports. Student supports were a critical component of Agave High School's implementation of MOWR. When talking about how the school implemented the MOWR model, the chief academic officer described the school's commitment to student supports. "Because it is not a choice for every student to have Cambridge, we have to make sure we provide a lot of support and infrastructure to make sure all students have all the resources needed to be successful" (district administrator interview, January 26, 2012).

Thirteen specific student supports were identified within the Agave High School Academic Plan for Success document (document review, January 2012). One of these was the school's learning lab, a new model for student support that they conceptualized and implemented with the start of the fall 2011 academic year to address the learning gaps of students. The chief academic officer stated that the learning lab provided a way for the school to address gaps in student learning.

So our students are coming to us with some deficit gaps. Part of what we

see learning lab being is that opportunity to fill those gaps, but that our

obligation in the core curriculum of Cambridge and all of our other core

content areas is about continuing progression of higher order thinking and

higher order experiences in communicating, speaking, reading, and

writing. That they're getting those opportunities in their core classes, and

that learning lab is the place where we bridge those gaps for them."

(district administrator, design team meeting, October 24, 2011)

School administrators found that constant evaluation of student learning

coupled with fluid processes proved to be an effective student support. The

principal stated that formative assessment and fluid processes are supporting

student learning at Agave High School.

"And what we do find is that the more fluid your processes are, the better

it is for students, because you're constantly . . . there's no one causal

relationship between how kids learn and what they're learning and the

process for learning. And so that constant evaluation of where students

are and what they need on a regular basis, true formative assessment is

what we're finding is the greatest strength of learning labs." (Agave High

School principal, design team meeting, October 24, 2011)

Although a number of student supports were in place ranging from new

technology-based reading programs added at the beginning of October 2011 to the

more than 20 extended day enrichments opportunities (site visit notes, October

147

24, 2011), administrators recognized that many of the student support models still need to be refined. "We're definitely still in that mode of acceleration or remediation based on individual needs. It's not as elegant yet as I would love for it to be" (district administrator, MOWR Learning Collaborative meeting, October 31, 2011). The chief academic officer went on to explain that the piece she thinks they are really missing is the individualized diagnostic ongoing assessment of students (district administrator, design team meeting, October 24, 2011).

Research question 1.2 In order to answer the second research question, "What are the factors that appear to enhance or impede implementation of MOWR at the local school level?" the following case study instruments were used: the MOWR school level survey questions, the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and a review of school documents. The transcripts from the MOWR Learning Collaborative meetings were used for confirming and disconfirming evidence. The findings are discussed below within this section.

Trends that emerged from the quantitative data analysis. Post survey results from the MOWR school survey administered in January 2012 to administrators, teacher leaders, and grade 9 teachers revealed Agave High School responded positively on the survey scales for District Context, School Capacity and MOWR design. When examining the responses by position, the mean response from administrators and from teachers fell between *strongly agree* and *agree* for each of these scales. For the BES Design and Support scale, the mean

148

administrator response fell right at *neither agree nor disagree*, whereas the mean

teacher response for this same scale fell between *strongly agree* and *agree*. On

the Selection Process scale, for each school position, the mean response for

administrator and teachers fell between *agree* and *neither agree nor disagree*.

Responses were least favorable on this scale when compared to all others.

When examining mean responses on the Teaching Efficacy and Personal

Efficacy scales, results indicate all respondents by position had greater personal

efficacy than teaching efficacy. As a whole, Agave High School mean responses

for Teaching Efficacy fell between *moderately agree* and *agree slightly more than*

disagree. For Personal Efficacy, mean responses fell between *strongly agree* and

moderately agree. The mean response from administrators was more favorable

on these two scales than the mean response from teachers. However, for all other

scales the teacher response was more favorable than the administrator response

with the exception of the Selection Process scale, where the mean response for the

post survey results was the same for teachers and administrators.

Correlation coefficients were computed to determine if there was a

relationship at Agave High School between the MOWR and BES Implementation

scale and any of the other MOWR survey scales related to constructs identified in

the research literature that can enhance or impede implementation of school

reforms. As shown in Table 21, the results of the correlational analysis show

correlations were statistically significant between the MOWR and BES

Implementation scale and the following four scales: District Context, School

Capacity, Selection Process, and MOWR Design.

Table 21

Agave High School MOWR and BES Implementation Scale Correlations

Scale	District Context	School Capacity	Selection Process	BES Design and Support	MOWR Design	Personal Efficacy	Teaching Efficacy
MOWR and BES Implementation	.75*	.92**	.68*	.68*	.74*	-.28	-.41

Note. N=10.
* p < .05. ** p < .01.

The strongest relationship appeared to be between the MOWR and BES

Implementation scale and the School Capacity scale. No relationship appeared to

exist between the MOWR and BES Implementation scale and the Personal

Efficacy or Teaching Efficacy scales. Correlation coefficients were also

computed to determine if there was a relationship at Agave High School for

teacher respondents between the MOWR and BES Implementation scale and any

of the other MOWR survey scales. The results showed the correlation between

MOWR and BES Implementation and MOWR Design scales was significant, r (3)

= .95, p < .05. These patterns are further explored through quantitative data item

analysis from the MOWR Agave High School post survey results and through the

findings that emerged from the analysis of the qualitative data for the purpose of

more fully understanding what factors appear to enhance or impede

implementation of MOWR at Agave High School.

The district as the driving force. Agave High School building level administrators and teachers alike recognize the district as "the driving force" (Agave High School principal interview, January 26, 2012) behind the implementation of MOWR. District leadership made the decision to implement MOWR (Agave High School teacher A interview, February 6, 2012) and was seen by the school principal as the go between and the provider of funding and resources (Agave High School principal interview, January 26, 2012).

Teachers believe that the district supports MOWR. "They've bought into it and really see the value in it" (Agave High School teacher B interview, February 6, 2012). In addition to making the decision to adopt the MOWR strategy and Cambridge curriculum, the district, and specifically the chief academic officer, assumed the role of managing and overseeing ongoing implementation. She participated in every design team meeting and site visit at Agave High School that I attended during the study, and actively participated in every MOWR Learning Collaborative meeting that took place.

The chief academic officer also assumed the role of the "Cambridge Coordinator" at Agave High School. The Cambridge Coordinator is the person at each Cambridge approved school site whose role includes receiving all correspondence from Cambridge, making sure teachers have access to the Cambridge support web site, monitoring and enrolling teachers in Cambridge professional development activities, and overseeing any other Cambridge related tasks.

In part, the chief academic officer's assumption of this role appears to be due to the small numbers of district staff and their charter school size. During the October 24, 2011 design team meeting, I asked who was fulfilling the role of Cambridge coordinator, a role that CFA has encouraged someone at the school level to assume who ideally is not in a formal administration role. The district chief academic officer replied that she was serving as the Cambridge teacher support coordinator, saying, "We just don't have any other bodies" (design team meeting, October 24, 2011)

Opening a new high school program. Agave High School planned and opened a brand new high school program that opened in fall 2011. This involved selecting a new curriculum, hiring new staff, and putting in place new administrators. Cambridge and MOWR were options explored early on in the planning process for the school. A teacher who was interviewed said, "As the high school was being planned, MOWR . . . was one of the avenues considered from the beginning of the planning stages for the school" (Agave High School teacher A interview, February 6, 2012).

Ultimately the administration selected both Cambridge and MOWR as foundational elements of the high school program. The principal described the decision making process. He stated, "When we were looking at what curriculum design to implement for the high school we were just starting, Cambridge was the best option . . . and going with Cambridge just was a logical fit with MOWR because MOWR was part of a whole collaborative network that was led and

supported by CFA, so it just was one of those 'well, of course why not.'" (Agave High School principal interview, January 26, 2012).

Coupled with opening a new high school program came the need to hire new teachers. The chief academic officer explained that the administration intentionally hired teachers whom they perceived to be a good fit with the Cambridge curriculum and MOWR model. "We hired teachers that had the proclivity and philosophical belief to help make this something truly that you see in place . . . the teachers have the same attitude and belief about students being able to accelerate and move on" (district administrator interview, January 26, 2012).

District and school building leadership recognize that hiring new teachers directly contributed to establishing a shared mission and vision at the school across all faculty and staff. The chief academic officer said, "Everyone is new and so everyone is coming into this journey with the same mission and picture of what we want" (district administrator, design team meeting, October 24, 2011).

The predominantly new teaching staff is seen by administration as critical to the capacity of the school to implement MOWR and Cambridge. The principal stated that despite the fact that some of the teachers are new to the teaching profession, the school could not have implemented Cambridge and MOWR with the teaching corps they had last year.

"We couldn't have done this, in my opinion, with the teachers that were onboard last year, not because they might not be fantastic, but in this

153

environment, for where we need to take people, it's a very . . . The

teachers we have now, even though some of them are brand new, some of

them have some years of experience, it's amazing." (Agave High School

principal, design team meeting, September 1, 2011)

The role of the leadership team and the purposeful hiring of staff were

evident in the NCEE Arizona engagement manager's school profile developed

following an October 2011 site visit.

Leadership team made a decision to set the goals and mission of the

school, present them to the last year's staff, then interview all the teachers

that are building the MOWR and Cambridge program together as a belief

system and instructional system approach and attended training together.

This process resulted in 70% new teaching staff. (NCEE Arizona

engagement manager's school profile notes for Agave High School,

October 2011)

Match between MOWR and the mission and goals of the school. When

asked to respond to the statement, "My school's vision, mission and goals are

aligned with the MOWR model," the mean response for administrators (M=1.00,

SD=.001) fell at *strongly agree* and the mean response for teachers (M=1.33,

SD=52), fell between *strongly agree* and *agree* on a five point Likert scale where

a 1 indicated *strongly agree* and a 5 indicated *strongly disagree*. These results

suggest that administrators and teachers saw alignment between the MOWR mode

and the goals and mission of Agave High School.

The Agave High School district administration initially became involved in the MOWR initiative because of the alignment with their own school goals. The district chief academic officer described the connection between the school's goal to prepare students to graduate from college and the decision to participate in the MOWR initiative.

We got involved because it is the philosophy of the school. We are not just preparing kids to get to college, but to be a college graduate. When you set that as your goal, the MOWR initiative is just, it's so applicable to our mission and philosophy here. (district administrator interview, January 26, 2012)

In addition to administrators, teachers seem to identify a match between the goals of the school and those of MOWR. During a teacher interview, one of the teachers described the importance of Cambridge to the school in terms of meeting the needs of their students. "As a high school we are very sold on the importance of the Cambridge Curriculum and the fact that it is rigorous and the fact that we think it is going to be what is best for our kids (Agave High School teacher B interview, February 6, 2012).

The connection between the school's goals and their choice of the Cambridge curriculum is reflected in how the school is portrayed by the media as well. A newspaper article featuring Agave High School stated the relationship between the school's use of the Cambridge curriculum and the school's desire to prepare students to graduate from college and compete globally.

The driving force behind the students' advanced learning, the Cambridge

Curriculum, goes hand in hand with [Agave High School's] goals for

students. "Students are prepared to graduate college and career ready to

compete globally and contribute to their communities," [administrator]

said. (Quote from newspaper article published in September 2011)

Alignment of resources and practices. Together, the district and school

made a number of decisions relative to resources and practices that appear to be in

direct alignment with MOWR and Cambridge. These include staffing decisions,

allocation of dollars, use of partnerships with the university, and a willingness to

make mid-course changes.

Through site visits, it was observed that math and science classrooms had

two teachers, with an average class size of around 27 students (school site visit

notes, September 1, 2011). When asked about this, the administration described

the investment made in staffing. The district chief academic officer said, "We

have classroom aides in almost every classroom. We have two teachers in each

math class in high school, two teachers in each science classroom in high school.

We have some very strong support, with aides; I mean there's an aide" (design

team meeting, September 1, 2011).

The administration recognizes this is an expensive model that may not be

sustainable. The district chief academic officer stated that the model was

implemented because students needed individualized attention, but said she was

not sure how the school could sustain the staffing given the expense.

This year we hired two math teachers and two science teachers so that we

could make sure that we provided really small groups in those classes so

students could get a lot of individualized attention as needed. However, as

you can imagine that's a pretty expensive staffing model. So I don't know

that we're going to be able to sustain that for a second year. (district

administrator, MOWR Learning Collaborative meeting, November 14,

2011)

The district allocated funds to pay for all students to take the Cambridge

end-of-course assessments (email from the district administrator, December 8,

2011), but struggles with identifying funding for professional development.

During a November 2011 site visit, the administration talked about professional

development dollars being plentiful at the high school district where they worked

previously and the stark difference at the current school and district. The chief

academic officer said, "Here we need money for professional development"

(design team meeting, September 1, 2011).

Over the course of the study, the administration was observed making

decisions relative to practices at Agave High School based on alignment with the

Cambridge curriculum and MOWR. This was most noticeable with the school's

decision to no longer participate in a teacher reform model that was utilized in the

past within the K-8 school and supported by the university partner. The chief

academic officer stated that teachers did not see a fit between the teacher reform

model and MOWR. This made it difficult for teachers to implement the

Cambridge curriculum and left administration determining how to handle the apparent disconnect.

How do they implement Cambridge with fidelity? You have a challenge or two because you're also, from a top down perspective, we had done [name of teacher reform program], which is a whole other program over the last year or two, which our teachers are telling us does not fit with what we're doing with Cambridge and Move On When Ready. So we're really trying to juggle through that issue in order to move to what we consider to be the best way of handling it. (district administrator, design team meeting, September 1, 2011)

The administrators appeared to carefully consider the lack of fit between the teacher reform model and MOWR at Agave High School. The principal explained that one model was not necessarily better or worse. Rather, the issue had to do with whether or not both models could allow the school to move in the same direction.

This is not about [name of teacher reform program] being good or bad. This is about if you're a Cambridge school with the trajectory here, does [the other program] also allow you to have the same trajectory. And so those are the kind of decisions that we're going to have to get involved with, how does that work. (Agave High School principal, design team meeting, September 1, 2011)

By October 2011 the administration made the decision to no longer participate in the teacher reform program due to the lack of alignment with MOWR and Cambridge (school site visit, October 2011).

Communication. Communication around MOWR and Cambridge is important at Agave High School. Communication appears to happen at multiple levels, with administration, teachers, students, and families. The principal attributes open communication by the administration as a reason why initial implementation of MOWR and Cambridge went relatively well.

> I think it starts with communication and just making sure that you're communicating with everybody and I feel very good about, and that's one of the things I hear from the parents all the time, is they're so pleased about the level of communication this year. And the teachers say the same thing, so I think that's really the bedrock of what we're trying to create, is just making sure everybody knows what the plan is, what we're doing, and even though we may have bumps in the road at times, I think as long as they know that there's a plan and we're going to get there, that people are satisfied and patient. So that's gone a long ways towards helping things" (Agave High School principal, design team meeting, September 1, 2011)

District and school level administration self-identify communication as part of their role relative to implementation of MOWR. The district chief academic officer said that she is responsible for "hearing the issues" that come up in weekly leadership meetings and then working to solve the problems (district

159

administrator interview, January 26, 2012). Similarly, the school principal described his role relative to implementation as being responsible for facilitating implementation, which included "bringing information back from the [MOWR] Learning Collaborative, taking information from the teachers back to the Collaborative to make sure we are addressing all of the staff needs" (Agave High School principal interview, January 26, 2012). The chief academic officer and the school principal were engaged in two-way communication and utilizing information received to address needs of the staff.

Teachers at Agave High School seemed to recognize that the administration was working to keep open lines of communication around MOWR. One of the teachers interviewed said that the administration tried to educate the teachers about Move On When Ready. The teacher said, "To the best of their ability they explain what the possibilities are for our students, what the legislation allows for, what the Grand Canyon Diploma means. They try as much as possible to educate us on those types of things" (Agave High School teacher A interview, February 6, 2012).

Communication about Cambridge and MOWR extended beyond the high school faculty to students and their families. In describing the role of teachers in implementing Cambridge, one of the teachers talked about teachers taking the time to communicate with students about MOWR as part of the implementation process.

When we have the chance, we try and let our students know what we know about MOWR and make sure that they are also aware of the opportunities it gives for them and even aware of I think of how challenging the exams will be, that these are not going to be the easiest exams they have ever taken when they get to the exit exams, but that they are beneficial exams because it allows them to see where they fit not only within their school and in the state, but even internationally. (Agave High School teacher A interview, February 6, 2012).

Communication with families appeared to occur in a variety of ways including weekly newsletters, informational meetings, printed materials, the school web site, and through family conferences (document review, January 2012). The principal said that communication with families was very strong and that parents were aware of MOWR, perhaps even more so that some of the staff members.

I feel like the communication here has been phenomenal in terms of communicating with families and having families aware of and knowledgeable about, as much as we know about Move On When Ready and Cambridge, but I think it's definitely, parents are aware. I think in some cases, our parents are more aware than some of our staff members have been. Because the staff members don't know anything different, they just think this is how school operates. (Agave High School Principal, design team meeting, October 24, 2011)

Through communication with families during quarterly parent conferences, Agave High School was working to help parents understand what the Cambridge curriculum means for their children. An administrator described how teachers and families were able to talk about the Cambridge syllabus during a parent conference night, which led to a number of parents signing students up for tutoring so that their children could get extra academic support.

> So at those conferences the ninth grade teachers were able to talk about Cambridge with the families and show them the Cambridge syllabus. And that actually was a really good eye opener for parents to understand what the rigor is and why the rigor is important. And in fact, we got a lot of parents at the last ILP group who signed their children up for Saturday Scholars, to get additional support in tutoring (design team meeting, October 24, 2011).

The administration acknowledged that communication with families primarily centered on the Cambridge curriculum. A conversation between CFA and school administration revealed that parents know about Cambridge, but very little about the Grand Canyon High School Diploma.

> CFA (researcher/participant): Do the parents know about Cambridge?
>
> School Principal: Oh yeah.
>
> CFA (researcher/participant): Do they know about the Grand Canyon Diploma?
>
> School Principal: Not so much. They kind of have an idea.

District Chief Academic Officer: We're going to teach them a little bit. We're doing our summative curriculum nights where we're going to talk to them about the Grand Canyon diploma. (design team meeting, October 24, 2011)

There was also evidence to suggest few explicit conversations occurred about MOWR at the school. A teacher interviewed said there was not a lot of discussion about MOWR specifically. "There hasn't been a great amount of articulation regarding that [MOWR]. In casual conversations teachers do seem supportive of it, but there hasn't been extensive conversation regarding it" (Agave High School teacher B interview, February 6, 2012).

While the Cambridge curriculum model was described in detail on printed materials developed by the school and on the school's web site (document review, January 2012), there was no evidence of Move On When Ready or the Grand Canyon High School Diploma. The only exception identified through the document review was a parent FAQ that stated the Cambridge curriculum "is endorsed by the Center for the Future of Arizona and 'Move On When Ready' legislation" (Parent FAQ, document review, January 2012).

Teacher collaboration in support of Cambridge implementation. Within the Agave High School Academic Plan for Success, nine discrete curriculum support activities were identified in addition to eight discrete teacher support activities (document review, January 2012). The level and quality of teacher and

163

curriculum support at Agave High School was noticeable in visiting Agave High School and in talking with administration and staff.

Teachers at Agave High School collaborated on the Cambridge curriculum and its implementation. The administrators saw value in the teachers being able to collaborate and in the quality of the work that emerged. The chief academic officer stated that administration would like to continue to identify dedicated collaborative time for teachers in order to support implementation of the Cambridge curriculum and MOWR.

> What I'd really like to do is let them have one Saturday a month where they can really spend a lot of time, bring their resources to share with one another. That was some of the richest work that we did last spring when we hired our teachers. And you saw the example with [name of teacher] curriculum that she presented. That's work that they developed collaboratively all last spring. So if we can continue to do that, you can see where the curriculum will only get richer. (district administrator, design team meeting, September 1, 2011)

At the outset of the school year, the administration designed opportunities for teachers to meet across related disciplines. The intent was to provide time for the teachers get together to join curriculum, look at where they are, and also start vertical alignment conversations with the middle school (site visit notes, September 2011). The principal stated that adjustments were made to this format to allow for additional collaboration time based on teacher need.

164

We had time set aside once a month for humanity teachers and STEM teachers to work collaboratively together. And what we found was that number one, that wasn't often enough, and number two, that by humanities and STEM it was too generalized. And so what our teachers decided is they need to work together by core academics . . . on a weekly basis. (Agave High School Principal, MOWR Learning Collaborative meeting, October 31, 2011)

The administration coordinated teacher preparation time so that teachers had a common planning time by academic area (MOWR Learning Collaborative meeting notes, October 31, 2011). There was some evidence that collaboration was more effective for some departments than others. During an October site visit, administrators alluded to the fact that not all of the departments were good about connecting with one another. An administrator said, "The English and humanities group are really good already about connecting. Science not quite as much, but we'll keep working. And math also seems to be a little more disconnected from each other" (design team meeting, October 24, 2011).

Collaboration occurred across grade levels as well, often through informal conversations facilitated by close proximity of the K-8 teachers to the grade 9 teachers. Administration stated that teachers across grades see each other regularly and engage in idea sharing.

Yeah, and what's great is, you see that, the high school teachers will work with the elementary teachers because the building is one building, and

most of the classes are fairly close by. They see each other all the time so they're always talking and interacting and sharing ideas. And so there's a lot of that collaboration between grades. (district administrator, design team meeting, November 1, 2011)

Much of the work of implementing MOWR and the Cambridge curriculum in particular was accomplished through grade band cluster meetings that occurred weekly with teachers and administration. The school principal explained that the cluster meetings are when the teachers and administrators review goals and strategies, and monitor student progress.

And our implementation process is through our cluster meetings generally . . . so K-2, 3-4 and 5-6, then 7-8 and 9. And we review on a regular basis in there our goals and our strategies and our evaluation methodology, Galileo for example, and our student data. And so it's fairly well organized, though not every time tied to, "Okay, remember we're going to review our Cambridge, school improvement, Title I." It's just part of the fabric of what happens in that process. (Agave High School principal, design team meeting, October 24, 2011)

The work that was accomplished through the cluster meetings was observable just by entering the room where the teachers and administrators met. During an October 2011 site visit, a person from a local philanthropic organization visited the school to tour and learn more. On her way out of the school, she stopped by the MOWR design team meeting and stated that the

collaborative work among teachers was evident simply by stepping into the cluster room, even without teachers present.

> School guest: It was so different in the cluster room, just you can see an illustration of how the teachers work together and build their strategies. District chief academic officer: But there weren't teachers in there. School guest: No, no, no, but the work was on the wall. (site visit notes, October 24, 2011).

Similarly, the NCEE Arizona engagement manager observed in her site visit the role of the cluster meetings relative to implementation. The NCEE Arizona engagement manager's school profile notes read, "Cluster meetings by grade level bands, PK-4, 5-6, 7-8, and 9 are heart and head of much of discussions and decision-making and training" (NCEE Arizona engagement manager's school profile notes for Agave High School, October 2011).

Teacher commitment and capacity. Teachers seemed to be committed to MOWR and the implementation of Cambridge. In talking about MOWR, one teacher said, "We are doing our best to implement the Cambridge curriculum" (Agave High School teacher A interview, February 6, 2012). This commitment is reflected in the MOWR survey results of teachers at Agave High School. When asked to respond to the statement, "I am personally motivated to make the MOWR model work in my classroom," the mean teacher response fell between *strongly agree* and *agree* (M=1.33, SD=.52) on a 5 point Likert scale, where 1 is *strongly agree* and 5 is *strongly disagree*.

The administration recognized the commitment of their teachers and, in some ways, was surprised about the level and extent of commitment. The school principal said he was shocked by what teachers were willing to do.

I'm just saying that, our teachers would do it [teacher professional development on a Saturday] without pay. One of the things about our teachers is, I'm shocked, at that level of commitment on their part, but they don't know about an 8 to 4. I mean [name of administrator] sends out emails at 10:30 at night and they respond. (design team meeting, September 1, 2011)

Teacher commitment was evident in the resourcefulness of the teachers who in some instances did not have textbooks or other materials related to the Cambridge curriculum. The school principal explained that not having resources was difficult, but because the teachers were "all relatively new and resourceful, and technology driven and motivated for the right purposes" that it had been manageable. He then said, "I mean they are so happy when they get textbooks and resources, but they're not waiting to teach something based on the textbook coming in" (design team meeting, October 24, 2011).

The administration described the teachers as having a high readiness level for the implementation of Cambridge that often resulted in requests of the administration.

And we don't have any casual teachers on our campus. It really is great, and so there's not this, a lot of them are Teach for America like teachers,

168

so they come to us with, "Hey, we want to do this. Why don't we work on Saturdays for this? Let's do this after school. When are we going to get this?" And they don't do that in any demanding way. It's just a very strong readiness way, and when we put it off a little bit, because we're not ready, they don't breathe a sigh of relief. They create a little more anxiousness amongst themselves. (Agave High School Principal, design team meeting, October 24, 2011)

Teacher empowerment in the implementation of MOWR. Teachers were a genuine part of the decision making process at Agave High School relative to the implementation of MOWR and in particular, the implementation of Cambridge. The principal stated that it was important to communicate with and to value people that work at the school. This was more important than making curriculum changes or other types of school reform. The teachers need to feel that they are a part of the school first.

And if there was one thing that you could do for making education better, you can do all the curriculum instruction expertise stuff that you ever wanted to, but unless people feel really comfortable about knowing what's going on, being communicated with and being valued, you're not going to get any of that vertical horizontal alignment or in any of the outcomes or in any of willingness to do more than you do when people feel like they're part of, it's their school. (Agave High School Principal, design team meeting, September 1, 2011)

169

In addition to establishing a culture that values teachers and staff, the administration directly supports teachers making decisions relative to implementation of the Cambridge curriculum. The principal said that they don't want to tell teachers what to do.

> And I think that really is the strength, is teachers. And so if the teachers are our strength, we don't want to tell the teachers what to do . . . we want them to be the developers of the curriculum. (Agave High School Principal, design team meeting, September 1, 2011)

This is reflected in the words of the administration and in printed materials that describe the Cambridge curriculum. An overview document of the Cambridge curriculum at Agave High School stated, "The program is designed to allow teachers to use their professional expertise and creativity to personalize educational experiences for students" (Agave High School Cambridge Curriculum Overview, document review).

The MOWR school survey results indicated that teachers agreed they have opportunity for input. When asked to respond to the statement, "Teachers have opportunities to provide input on how to implement MOWR at my school," the mean teacher response fell between *strongly agree* and *agree* (M=1.50, SD=.84) on a 5 point Likert scale, where 1 indicated *strongly agree* and 5 indicated *strongly disagree*.

Teachers made a variety of decisions at Agave High School during the course of this study. They made the decision to regroup students after the school

year started (design team meeting, October 24, 2011), the decision to begin to implement the Cambridge curriculum in middle school even though it was not planned for the 2011-2012 academic year (design team meeting, October 24, 2011), and the determination that they needed more collaborative time together by content areas (MOWR Learning Collaborative meeting, October 31, 2011). During a January 2012 cluster meeting, I observed administrators seeking feedback and input from teachers regarding the school schedule for next year and the structuring of the learning lab. As part of the conversation, teachers made concrete recommendations about moving the learning lab to the end of the day and changing the way in which students are scheduled into the learning lab (school site visit, January 2012).

The emphasis placed on teachers making decisions appeared to be relatively new at Agave High School. When talking about communication and teacher engagement during a September 2011 site visit, the school principal explained that in the past things were different under the former administration. The principal said, "We heard this morning when we met with our teachers, that traditionally what had happened at this school site was you had a person who decided this is what we're going to do and that was just it, and there was no opportunity for teacher input." (Agave High School principal, site visit notes, September 2011).

BES design and support. Agave High School responded least favorably on the MOWR survey to questions related to BES design and level of support in

comparison to how they responded on the other survey scales. In looking at the

BES Design and Support scale, which asked questions about the BES training and

ongoing support, for all respondents the mean response fell between *agree* and

neither agree nor disagree. In looking at sub groups, the mean response for

administrators fell right at *neither agree nor disagree*, whereas the mean response

for teachers fell between *strongly agree* and *agree*. This suggests that

administrators at Agave High School were less satisfied with the Cambridge

training and support than were teachers.

Further examination through item analysis of the individual questions

within the BES Design and Support scale showed that responses were positive

with regard to timing of the Cambridge professional development and the quality

of the professional development. In fact, when asked to respond to the survey

item, "the BES training was useful" all teachers (N=4) indicated that they *strongly

agreed*. In contrast, when asked to respond to, "On-going support is provided at

my school by the BES provider," administrator and teacher response was less

favorable. The mean administrator response fell between *agree* and *neither agree

nor disagree* and the mean teacher response fell between *strongly agree* and

agree.

Over the course of the study, I observed that Agave High School struggled

to gain access to Cambridge materials and resources for teachers in a timely

manner. There was little discussion in meetings about the teacher training or its

quality, but the need to gain access to materials consistently emerged.

172

On several occasions CFA invited the Cambridge representative with whom Arizona is working on MOWR to participate in MOWR Learning Collaborative meetings and to answer questions posed by schools. During an August 2011 MOWR Learning Collaborative meeting the Agave High School chief academic officer asked the Cambridge representative for access to teacher codes. The chief academic officer said, "Okay, we have been getting all the updated syllabi, but the teachers still do not have access codes. So I don't know if it's something that we didn't do correctly?" (MOWR Learning Collaborative meeting, August 26, 2011).

This issue persisted throughout the fall academic semester. During an email correspondence between Agave High School and Cambridge, the district chief academic officer stated that teacher and administrator passwords were not working. The chief academic officer wrote, "[Name of teacher] did finally receive his username and password information Dec 15 to be able to make these changes, but as of this morning [Jan 7] the password and username are still not working. We have several teachers whose passwords received from Cambridge have never worked and our exam officer's and my own are not working now" (email correspondence, document review, January 2012).

In addition to struggling to get password information to enable access to aspects of the Cambridge support web site for teachers and administrators, the school did not receive materials in what they perceived to be a timely manner. In an email to CFA from October 2011, the district chief academic officer wrote she

still had not received their "coursework packs" (materials needed in order for teachers to complete an accreditation process with Cambridge in order to assess student coursework for the purposes of counting toward end-of-course examinations) and asked for assistance from CFA in communicating the issue with Cambridge (email correspondence, document review, October 2011). During a design team meeting, the same administrator said, "I still am trying to get more support for our middle school teachers. I think our other teachers now are comfortable with the web site. As soon as they get the coursework . . . the coursework is the thing that they're just clamoring for" (design team meeting, October 24, 2011).

Though not as prevalent as the issue of getting materials and teacher access to the Cambridge web site, there were some challenges identified relative to understanding the costs of the Cambridge professional development and, specifically, the negotiated costs that schools could benefit from via the relationship with NCEE and larger state consortium. The chief academic officer said she was unclear on costs, and wanted to understand what the costs were before making available professional development opportunities to teachers.

> Because I know there's some aspect of this that's covered through our
> NCEE relationship, but I can't differentiate what is and what isn't. And so
> when teachers are signing on, they're saying, "Do I have to pay for this?"
> And I just want to get that ironed out before we start sending, because

we're cash strapped for professional development." (district administrator, design team meeting, October 24, 2011)

The MOWR model. Correlation coefficients revealed that the relationship between the MOWR and BES Implementation scale and the MOWR Design scale was significant, and was in fact the strongest relationship that existed between MOWR and BES implementation and any of the other scales. The relationship was particularly strong when looking at the post survey results for teachers at Agave High School. The MOWR Design scale consisted of questions that looked at perceived understanding of the MOWR model, how informed one feels about MOWR, perceived value of the MOWR model, understanding of how it is designed to improve student learning, and belief that the model will help one become a better teacher.

On the scale as whole, for all respondents the mean response fell between *strongly agree* and *agree*. This trend held true when examining mean response by school position for administrators, teacher leaders, and teachers. Teacher mean response was most favorable (M=9.8, SD=3.27) on a total scale of 6-20, where a low mean indicated a more favorable response. Item analysis from the MOWR survey results coupled with qualitative data findings further describe Agave High School's understanding of the MOWR model, perceived value of MOWR, and how they envision it being fully implemented.

Understanding of the MOWR model. When asked to respond to the statement, "I understand the MOWR model" the mean response for administrators

175

(M=2.10, SD=.74) and teachers (M=2.20, SD=.84) by position fell close to *agree*

on a five point Likert scale, where 1 indicated *strongly agree* and 5 indicated

strongly disagree. When asked to respond to the statement, "I understand how

the MOWR model is supposed to work to improve student learning" the mean

response for administrators (M=1.70, SD=.68) and teachers (M=1.60, SD=.55) by

position fell just between *strongly agree* and *agree* on a five point Likert scale,

where 1 indicated *strongly agree* and 5 indicated *strongly disagree*.

 While the quantitative data supported the finding that Agave High School

understands the MOWR model, qualitative data revealed there were nuances

relative to how the MOWR model was understood by administrators and teachers.

During a teacher interview, one teacher described the model in great detail. She

talked about the state policy, the components of the MOWR model, and the

notion that students who master content can earn a Grand Canyon High School

Diploma.

> It's legislation that was passed a few years ago to allow us as schools to
>
> really recognize whether or not students are prepared for college and
>
> prepared for careers. And in doing that, students participate in particular
>
> classes, particular coursework and the coursework has to provide some
>
> sort of exit exam and requires participation in a specific curriculum such
>
> as Cambridge and ACT Quality Core. The students are able to show to us
>
> and to themselves that they have mastered the content or achieved a
>
> certainly level of mastery they should know before graduating high

school. For those students who show that, they have an opportunity to earn a diploma at the end of 10th grade, which is called the Grand Canyon Diploma. (Agave High School teacher A interview, February 6, 2012)

When asked to describe the model, the district chief academic officer focused on the performance-based aspect of MOWR. She said that MOWR allows students to progress at their own rate.

I would describe MOWR as a program that takes away the constraints of year growth. Instead of letting students progress a year at a time, I think MOWR allows students to progress at the rate that allows them to accelerate and move on when they are in fact demonstrating significant mastery of the content areas to go to the next level. (district administrator interview, January 26, 2012)

The principal described MOWR as a pathway that allowed students to leave high school more quickly, but emphasized that it really raises the academic bar and enables students to advance in their learning based on desire and interest.

I would say that MOWR is a way of making sure we are challenging students to achieve academically at the highest levels possible that if and when they have exhausted all possibilities to excel in high school and if and when they are ready to move on to college and or university, at this point community college, we provide them a path to do so. More than that path to leave high school more quickly and go on to college, I really view MOWR as raising the academic bar at a much higher level that we have in

177

the past and providing our students the opportunity to advance through the program not restricted by time or the calendar year, but only restricted by their own desire and interest to accelerate their own learning. (Agave High School principal interview, January 26, 2012)

One of the teachers interviewed focused on the opportunity that MOWR provides for motivated students to take college courses while in high school. He said, "I would describe it as an opportunity, a real opportunity for young women and men that are very motivated and want to either accelerate their studies or want to come across more challenging studies, it gives them an opportunity to start to take some college or university level courses in what traditionally would be their junior senior year" (Agave High School teacher B interview, February 6, 2012).

There was evidence that for some, MOWR may be understood as highlighting or emphasizing the community college pathway over other options available to students. The school principal described the opportunity that MOWR provides as a singular path that leads to community college, which he viewed as potentially problematic.

So just having that singular option of community college as the next pathway may be a little non-stretching for them [students]. Now we understand how we can address that and they don't have to go to community college, but holding community college out there as the carrot if you really achieve at the highest levels possible just seems counterintuitive to good education practices, but for a first step, it's a great

178

first step, we're just hoping that is only the first step of an expanding

process. (Agave High School principal interview, January 26, 2012)

Value in the MOWR model. When asked to respond to the survey item, "I

see value in the MOWR model over current practices" the mean response for

administrators (M=1.56, SD=.73) and teachers (M=1.50, SD=.58) by position fell

just between *strongly agree* and *agree* on a five point Likert scale, where 1

indicated *strongly agree* and 5 indicated *strongly disagree*. This suggests that

administrators and teachers see value in the MOWR model.

When asked if teachers support the MOWR model, the school principal

said that teachers support it conceptually, but seemed to think what they most

strongly support is the curriculum itself and the aspect of time being the variable.

They definitely support it conceptually because we've already had some

kids move or advance at different levels. The whole notion of getting kids

to take a test in their junior year so that they can leave high school and go

somewhere else hasn't really been the driver as far as the MOWR piece of

it, but the notion that time and place don't drive the curriculum, that

student academic growth and when they are ready, and having a more

rigorous curriculum with lots of support, that part they have embraced,

clearly embraced. (Agave High School principal interview, January 26,

2012)

One of the teachers interviewed talked about MOWR as a valuable tool

that the school could use to know if students are ready to take courses through the

partner university during their junior and senior year as part of the model that

Agave High School is building (Agave High School teacher A interview,

February 6, 2012). When talking about concerns relative to MOWR, this same

teacher said that she was worried about how the school could continue to

encourage students who do not pass the Cambridge exams the first time they take

them to consider taking them again. She said, "Only because I think that as

people understand, as people outside of Arizona understand the Grand Canyon

Diploma better, they will understand how it signifies that students haven't just

passed their classes, but they've really gained some knowledge and achieved the

things they need to achieve" (Agave High School teacher A interview, February

6, 2012). This quote suggests that for this teacher, there is perceived value in what

the Grand Canyon High School Diploma itself represents for students.

    How MOWR will be fully implemented at Agave High School. An

examination of the perceptions of administration and teachers regarding how

MOWR will be fully implemented over time presented a fuller picture as to how

MOWR was understood and viewed by the school.

    Site visit observations and interviews with administration and faculty

suggests that Agave High School anticipated many of their students upon

qualifying for the Grand Canyon High School Diploma will stay connected to the

school and take college courses through the university that is affiliated with

Agave High School. The principal said, "We're anticipating students at 16 or 17,

when they pass their Grand Canyon Diploma, are going to be taking some

university courses, but they'll still need the tie to the work that's happening here" (Agave High School principal, design team meeting, October 24, 2011).

The district chief academic officer described a similar scenario of students qualifying for a Grand Canyon High School Diploma and taking courses through the university, while maintaining some connections to the high school campus (district administrator interview, January 26, 2012). The teachers seemed to envision the full implementation of MOWR similarly to the administrators with respect to students taking university courses. One of the teachers said she thinks that some students may take courses at a community college, but that the majority will stay with the high school and take a combination of high school and university courses.

> Many of our students I think would then stay here and take classes their
> 11th and 12th grade year from [the partner university] for college credit. So
> for us, implementation may look like a small percentage of students who
> qualify for a Grand Canyon Diploma do move on to a community college
> or technical school, but many would move to into maybe about half of
> their classes being [the partner university] courses and the other half being
> a continuation of their regular high school curriculum. (Agave High
> School teacher A interview, February 6, 2012)

When describing the full implementation of MOWR, the same teacher talked about the possibility that not every child will qualify for the Grand Canyon High School Diploma at the end of 10th grade. She said, "I also think that we

would not see everybody ready to finish at the end of 10th grade. We might have some students who go through those classes in 9th and 10th grade and are not able to pass the Cambridge exams so that they may then try that again in 11th grade or even 12th grade" (Agave High School teacher A interview, February 6, 2012). The quotes suggests that at Agave High School the Grand Canyon High School Diploma could be obtained at different points during the high school experience depending on student readiness.

A common concern that emerged when talking about the full implementation of MOWR was worry about whether or not the option of pursuing community college through early graduation with the Grand Canyon High School Diploma would be in the best interest of students and the school. A teacher interviewed said she was concerned that some students may feel they need to leave high school and enter community college because they have reached a milestone of qualifying for the Grand Canyon High School Diploma as opposed to continuing on in high school and preparing for a top university which might be more beneficial.

> One of my concerns might be a student who is really able to pass . . .for
> example the kinds of kids who may pass the exams may not be the kinds
> of kids we want to see go to community college because if they stay here a
> couple more years they could get into some very top notch universities.
> So one concern would be that those students may feel they need to leave
> because they've reached this level of achievement, whereas for their long

182

term goal of staying here two more years would be more beneficial.

(Agave High School teacher A interview, February 6, 2012)

A similar sentiment was expressed by the high school principal during an interview with him. He said, "We don't necessarily think that going to community college might be their most perfect option. Staying in high school and going to the university might be the most perfect option" (Agave High School principal interview, January 26, 2012).

Another teacher interviewed talked about the potential impact on the school community if strong students were to graduate early. The teacher said, "My concern would be is that we would have strong students and within two years they wouldn't be spending much time here" (Agave High School teacher B interview, February 6, 2012).

Research question 1.3. In order to answer the third research question, "As an intermediary, in what ways does CFA influence the implementation process at the local school level?" the following case study instruments were used: the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and a review of school documents. The transcripts from the MOWR Learning Collaborative meetings were used for confirming and disconfirming evidence.

Four trends emerged from the qualitative data analysis: providing direct assistance with implementation, providing direction and focusing attention on critical aspects of MOWR, acting as a connector and facilitator, and

communicating about MOWR at various levels. The findings are discussed below within this section.

 Provides direct assistance with implementation. CFA provided assistance in implementation of MOWR to Agave High School in a variety of ways that seemed to be appreciated by the school and helpful to them. The district chief academic officer said that CFA functioned in many ways as a district partner to the small charter school, taking on work that otherwise the administration at Agave High School would have to do on their own.

> Coming from such a small place they [CFA] have done a lot of the work that otherwise would have to be borne by me. So the fact that we have CFA convening these meetings, pulling together these professional developments, making these access points with Cambridge - that has been a tremendous asset to us and I don't think our implementation would have gone as smoothly if we hadn't had the Center for the Future of Arizona. They are almost like our super district in terms of being able to implement this. (district academic chief officer, interview, January 26, 2012)

CFA provided answers to questions directly asked of CFA by Agave High School during site visits, MOWR Learning Collaborative meetings, or through direct phone and email correspondence. Requests ranged from asking about the cost of training for middle school teachers (Agave High School design team meeting, October 24, 2011) to which science syllabus to utilize for the Cambridge Coordinated Science course (email exchange, November 8, 2011, document

184

review) to sharing a presentation developed by CFA for use by Agave High School (Agave High School design team meeting, September 1, 2011).

CFA also directed Agave High School to resources already available to them that they perhaps had forgotten about or that may not have seemed relevant at the time the resources were initially shared. For example, during a discussion around professional development that took place as part of an October 2011 site visit, CFA reminded the school about a comprehensive training document developed by Cambridge that was sent to the school earlier in the academic year. CFA said, "So there is a schedule of professional development. I don't know if you recall the documentation that we sent out probably about a month-and-a-half ago on just online training, how to work through that. That has all the information about some of the different sign-up dates." (Agave High School design team meeting, October 24, 2011)

Beyond providing direct information to schools, CFA clarified misinformation or misunderstandings related to Cambridge and the MOWR model as a whole. During an October 2011 design team meeting CFA clarified with the administration a possible misconception about Cambridge coursework based on something said during the meeting. CFA said, "With the coursework . . . it's a pack, the teachers work through it. . . . I don't think anything is online at all. I wanted to clarify that it's not really training - it's accreditation" (Agave High School design team meeting, October 24, 2011).

185

CFA provided support to Agave High School by reassuring them of the implementation process. During the interview with the principal, he spoke about the support he received from CFA.

This is part of a more rock solid program that has good research and technical support and guidance and when we get a little shaky on some implementation questions we have resources there to help us and to reassure us that those are normal questions to have and a normal part of the process. (Agave High School principal interview, January 26, 2012)

Teachers at Agave High School also seemed to recognize CFA as an entity or partner that could provide assistance. One of the teachers interviewed talked about questions she had that she thought CFA could help address.

I think we still have a lot of questions specifically about the Cambridge curriculum - what is going to be considered a passing grade . . . what can we do as far as what courses we can offer a student who doesn't pass a Cambridge course but maybe who we want to take it again next year? Is there a legal way to offer a third year of a course? Maybe some ideas about how to work with our younger students, to work with our middle school students to prepare them with the opportunities they will have with MOWR. (Agave High School teacher A interview, February 6, 2012).

Provides direction and focuses attention. CFA appeared to provide school leadership at Agave High School direction relative to the implementation of MOWR. In talking about CFA, the school principal said, "They have also

186

done a great job on a monthly basis [through the MOWR Learning Collaborative] to keep us centered and focused to make sure we are headed in the right direction" (Agave High School principal interview, January 26, 2012).

In analyzing the transcripts from the Agave High School design team meetings and the Learning Collaborative meetings, there was evidence that CFA brought focus and attention to specific aspects of the MOWR model that CFA identified as critical in implementation and in overall understanding of the initiative. Often this occurred through intentional questioning during site visit meetings. For example, knowing that teachers needed to be working through coursework accreditation, CFA asked Agave High School leadership if a process was in place to facilitate teachers completing the coursework accreditation.

So on the coursework, have you developed or thought through how this is going to work in terms of how teachers are going to work through the coursework packs? Or do you have a process in place? (CFA researcher/participant, Agave High School design team meeting, October 24, 2011).

This questioning resulted in a conversation about the process the administration was considering for coursework, and allowed CFA to identify questions the team had, misperceptions that needed to be clarified, and to reiterate timelines identified by Cambridge for completing the coursework accreditation.

There was evidence that asking specific questions of the Agave High School leadership team provided direction and that the conversations provided

187

dedicated time to identify and work through challenges or scenarios. For example, during a November 2011 MOWR Learning Collaborative meeting, the MOWR schools discussed how they were going to make available the fine arts and economics courses to students in the sophomore year, courses often not offered to students until later in the academic year, but that needed to be available within the first two years of high school for the purposes of the Grand Canyon High School Diploma. CFA asked Agave High School what course(s) they thought they would make available for fine arts and how they were planning to handle economics. In responding to the question, the administration indicated they were actually utilizing the discussion among the schools to identify different approaches that they might consider at their own school. The district chief academic officer said, "We're actually, as we're listening to all this, we're sketching out different schedules" (MOWR Learning Collaborative meeting, November 14, 2011).

CFA utilized Agave High School design team meetings, site visits, and MOWR Learning Collaborative meetings to describe what it believed to be critical aspects of the MOWR model. This was evident during an October 2011 Agave High School design team meeting when CFA described the focus on college readiness in connection to the Grand Canyon High School Diploma.

> If it's helpful at all, in talking about the Grand Canyon Diploma, while it
> can act as a standalone diploma, I increasingly am trying to talk with
> people about it as an indicator that you've demonstrated minimum college

readiness. So it's really more of an informative tool than it is a diploma. (CFA researcher/participant, Agave High School design team meeting, October 24, 2011).

Later in the same meeting, CFA spoke directly about the performance-based element of MOWR. CFA emphasized that time is the variable within the MOWR model.

At the end of the day, when I think about Move On When Ready . . . it really comes down to time is the variable. We're saying that every single child can reach this minimum level of college and career readiness. It may take some kids longer than others . . . so that's why you need some sort of intervention block. (CFA researcher/participant, Agave High School design team meeting, October 24, 2011).

Connector and facilitator. CFA was frequently described as a connector by administration at Agave High School. The principal said that without CFA, the school would not have a connection to other resources at the local, state, national, or even international level. This connection was important to Agave High School.

They [CFA] have been the driving force behind all of this work. Because we are one of the few schools implementing the Cambridge curriculum right now, if we were to do it on our own there wouldn't be any connector to any other local, state, national, or international resources. We would

189

just be on our own. Providing that connector has been huge for us, it has

been great. (Agave High School principal interview, January 26, 2012)

Qualitative data findings suggest that CFA was a connector for Agave High

School to Cambridge, to other MOWR schools, and to state policy.

Connector to Cambridge. CFA appeared to facilitate connections between

Agave High School and Cambridge. When talking about the role of CFA, the

district chief academic officer described the work that CFA did with Cambridge

to put together training for the assessment coordinators and face-to-face

Cambridge training for teachers (district administrator interview, January 26,

2012). The document review revealed five different email exchanges between

Cambridge, Agave High School, and CFA that addressed a variety of topics

ranging from clarification of pricing to technology needs to trying to gain access

to the Cambridge support web site for administrators and teachers to checking on

the status of materials ordered (document review, January 2012). Through these

exchanges, CFA elevated issues and served as a facilitator between Cambridge

and the school site. The Agave High School principal said, "They really are the

connector to both, not necessarily to answer every question we have, but a one-

point location that we can go to or a one-point person we can go to make sure we

are directed in the right ways" (Agave High School principal interview, January

26, 2012).

Connector to other MOWR schools. CFA provided a connection between

Agave High School and other MOWR schools in Arizona. In talking about

190

partnering with CFA through MOWR, the school principal described the benefit

of working with other schools though the larger statewide effort led by CFA. The

principal said, "We are not a school dangling out there by ourselves trying to do

something brand new up on the mountaintop or trying to get other people to buy

into it." (Agave High School principal interview, January 26, 2012)

Leadership at Agave High School seemed to find value in talking with

other schools about similar issues they faced via the MOWR Learning

Collaborative. The Agave High School principal identified topics during school

site visits such as moving beyond seat time and providing remediation for

students that he hoped could be discussed during monthly Learning Collaborative

meetings. He suggested that the Learning Collaborative could be a source of

assistance to Agave High School in working through these challenges.

> And then the other thing that we're also learning, which is what we're
>
> really going to need in the Learning Collaborative, is . . . how do we really
>
> get beyond just extra time, those kids who are doing computation skill
>
> remediation to a place where they can take the exam? (Agave High School
>
> principal, design team meeting, September 1, 2011.

During this study, other Arizona schools reached out to Agave High

School administration for support and to learn from their initial experience in

implementing MOWR. The school leadership at Agave High School looked to

CFA to help provide assistance in more intentionally connecting the schools.

During an October 2011 site visit to Agave High School, the school principal

191

talked about another Arizona middle school that contacted him to learn about their

work relative to Cambridge and the middle school program. He indicated that

both schools were interested in learning from each other and suggested that CFA

help facilitate a conference for middle schools.

> I've had conversations with them and it was kind of difficult 'cause she
>
> was hoping that she could latch on to what we're doing. And we said,
>
> "We're hoping to latch on to what you're doing." And so I think if you
>
> could help facilitate a middle school conference that would be fabulous.
>
> (Agave High School principal, design team meeting, October 24, 2011)

Through its work with schools, CFA intentionally facilitated knowledge

sharing across schools, establishing further connections. For example, in an email

communication between CFA and Agave High School, CFA specifically asked

Agave High School to share with other MOWR schools on the MOWR Learning

Collaborative conference call information about the learning lab and the changes

the school was considering making to the model.

> On today's Learning Collaborative call can you talk about the model you
>
> might try out with your schedule to move the learning lab to the end of the
>
> day, and where students might still need to be working on biology next
>
> year – but in a flex model? Trying to get ideas out on the table! (document
>
> review, January 2012)

This type of intentional connection and knowledge sharing was also evident in the

design team meeting transcriptions from the September 2011 and October 2011

192

site visit. For example, during the October 24, 2011 design team meeting CFA said, "As you're learning the results about how effective the learning lab time is I would love to continue to work with you on that. It's one of the main things that you're doing that I think could really benefit some of the other schools" (design team meeting, October 24, 2011).

Connector to policy. Agave High School looked to CFA as an entity that could assist in addressing policy issues related to the implementation of MOWR. During an October 2011 design team meeting the topic of Arizona's English Language Learner model was discussed. Agave High School was not obligated to implement a four-hour English Language Development program required in Arizona policy for English Language Learners because the school had too few students who actually qualified as English Language Learners. However, the administration worried that should things change and the school were required to implement the four-hour program that it would have a negative impact on the MOWR effort and student participation in Cambridge. The district chief academic officer identified this potential challenge and said that it was a policy issue that the school may need to think about in collaboration with CFA.

> In fact, this might be in terms of policy, Amanda, thinking about the fact that if we are ever obligated to do the four-hour pullout model, we've automatically now excluded ELL students from being able to participate in Cambridge. So we never want that to happen. (district administrator, design team meeting, October 24, 2011)

193

When asked during an interview what CFA could do to assist with implementation going forward at Agave High School, the district chief academic officer identified two policy issues that CFA could attend to: (1) making university tuition affordable by offering a reduced rate of tuition to students who qualify for the Grand Canyon High School diploma to start taking university level classes; and (2) addressing school accountability issues. Relative to school accountability, the chief academic officer said that she would like to see a policy decision made that allows MOWR schools to choose to be held accountable to the BES instead of the current state test used for accountability purposes.

> The other policy decision is that I would like to see MOWR sites who are willing to take the BES examinations . . . I would like to see those take the place of AIMS. So the money spent to administer AIMS, let me have that money to administer the BES and hold me accountable to the BES instead of holding me accountable to AIMS because it feels a little, not even redundant because I think the BES is at a level that we aspire to. AIMS is kind of a second thought and it is not helping us to promote the objectives that we have in terms of being a MOWR campus. (district academic chief officer interview, January 26, 2012)

Communicator. CFA appeared to influence the implementation process through communication with schools and the larger community. Agave High School teachers suggested that CFA was a source of information for them about MOWR. One of the teachers interviewed identified CFA's role in

194

implementation at the school site as "providing information and general teaching about MOWR, but also being available for us to ask questions so that when we come across issues we aren't sure about, they are able to help us clarify some of them" (Agave High School teacher A interview, February 6, 2012).

Relative to CFA's perceived role as a communicator, there is evidence that teachers would like to see increased communication. A teacher interviewed said that CFA could "educate the faculty a little more about it . . . having something that is done where the process is thoroughly explained and just providing us with more information. I think a lot of us, including myself, we know about the concept of MOWR, but we are not exactly sure what that looks like logistically" (Agave High School teacher B interview, February 6, 2012).

CFA's presence on campus to interact with faculty and staff was welcomed and encouraged by the administration. During an interview with the school principal, when asked what CFA could do to help facilitate implementation at Agave High School, the principal said, "Though it may be impossible, some more site visits. I like the site visits when they are able to come out. . . . When they have a chance to come out and interact with some more of our staff that has been fantastic" (Agave High School principal interview, January 26, 2011).

Teachers recognized a need for CFA to assist with external communication in order to facilitate implementation of MOWR. When asked what CFA could do to assist with implementation of MOWR, a teacher interviewed indicated that CFA could help educate others on the benefit of

MOWR. She stated she worried about misconceptions held by other educators

and potential risks of MOWR being implemented in a way that it was not

intended that could undermine the overall initiative.

> This is kinda off the wall but I was actually a part of a conversation with
>
> someone about MOWR who does not like it . . . but this particular person
>
> commented it's only basically a ploy by the state to save money because
>
> we can move students out earlier and we don't have to continue to pay for
>
> their education. It makes me think maybe there are some ways that we
>
> can educate other educators better about the benefits of MOWR. I'm sure
>
> that it could happen if the schools that are implementing MOWR aren't
>
> careful about how they implement it and forget the real goal of it, the goal
>
> of reaching student understanding. I wouldn't want this type of
>
> opportunity to fall again within the many things even educators complain
>
> about. And it's not going to fix everything but I think there are a lot of
>
> things it could help with. (Agave High School teacher A interview,
>
> February 6, 2012).

Agave High School case study summary. Opened in August 2011,

Agave High School is a charter school located in an urban metropolitan area in

Arizona. The school is affiliated with a major public university in Arizona and

currently serves 120 grade 9 students, many whom live in the neighborhood

surrounding the school. The high school opened as an expansion of the existing

K-8 Agave Elementary charter school that opened in 2009. The school has

196

struggled academically and is in its first year of Title I School Improvement Status.

Agave High School's mission is to prepare students to complete college, compete globally, and contribute to their community. This was evident in talking with administrators and teachers, many of who talked explicitly about preparing students to be successful and graduate from college.

The school selected MOWR and the Cambridge BES as the foundation for their new high school program during the planning phase for the school. The district chief academic officer was the primary driving force behind the decision to implement MOWR at Agave High School and she continued to provide significant leadership in the facilitation and ongoing implementation. The school implemented a course sequence that was consistent with the MOWR state policy and the State Board of Education requirements for the Grand Canyon High School Diploma. All students were enrolled in Cambridge math, English, science and history courses this year and the intent was for all students to take the Cambridge end-of-course examinations at the end of the academic year.

The school was very focused on implementing the Cambridge curriculum with fidelity. Teachers were integral in this work, meeting weekly in collaborative "cluster" meetings with school administration to discuss and improve upon implementation of the curriculum. The majority of teachers at Agave High School were new to the school and were intentionally hired to teach Cambridge within the MOWR performance-based framework. This contributed

to a shared mission and vision in the school that was in alignment with MOWR. Administered in January 2012, MOWR school survey results indicated high levels of consistent use of the Cambridge curriculum, participation in Cambridge training, student awareness of the Cambridge curriculum, and evidence of change in instructional practice. There was some evidence to suggest that students were aware of the opportunity to qualify for a Grand Canyon High School diploma (MOWR school post survey results, January 2012).

The administration and teachers were working through together how to implement at the school and classroom level a performance-based education model that holds minimum college readiness as the standard for all students. Administrators talked about time being a variable in student learning and created flexibility in the school schedule to accommodate increased learning time for students. Implementing a performance-based model is challenging, and this was reflected in the case study results. The school continued to have questions about how to best support students who do not initially qualify for the Grand Canyon High School diploma during the first two years of high school.

The school took steps to implement a variety of student support structures within the structure of the academic day such as a learning lab to provide reteach and enrich opportunities for students. Administration and staff believed it was the school's responsibility to ensure there were adequate resources to make sure all students can be successful (district administrator interview, January 26, 2012). There was evidence of internal and external communication about the Cambridge

curriculum. There was less explicit communication about MOWR and the Grand

Canyon High School diploma, although teachers indicated that the administration

shared what they knew about MOWR and in turn, teachers shared information

they had with students.

The school administration faced some challenges relative to support from

Cambridge. The Cambridge professional development was perceived to be

valuable, but there was less evidence from the MOWR school survey that ongoing

support from Cambridge was viewed as favorably. Specifically, the chief

academic officer who was functioning in the role of the Cambridge Coordinator

for the school faced challenges in ensuring teachers had access to online

Cambridge resources and that materials were ordered and received in a timely

fashion.

With respect to the MOWR model, the MOWR post survey results suggest

high levels of understanding of the model, understanding of how it is supposed to

work to improve student learning, value of the MOWR model, and belief that it is

a good model for the school. For each of these survey items, the mean

administrator and teacher response ranged from *agree* to *strongly agree*. The

level of support for and understanding of the MOWR model was confirmed

through site visits, design team meetings, and interviews. There were some

concerns with regard to the full implementation of the MOWR model. The school

was structuring the implementation of MOWR at Agave High School with the

intent that students will qualify for the Grand Canyon High School diploma and

take college courses while staying tied to the school via the relationship the school has in place already through its partner university. Some administrators and teachers worried about students possibly deciding to graduate early and enroll in community college.

Seen primarily as a connector, a provider of direct services, and a communicator, CFA provided support to Agave High School in its implementation in a variety of ways. The administration seemed to value the connections established and facilitated by CFA to other Arizona MOWR school sites through the MOWR Learning Collaborative. CFA was the entity that the school could turn to for questions and guidance on implementation, and in particular, with questions about the Cambridge program. There was evidence to suggest that CFA played an important role in providing direction and keeping the school focused on critical aspects of the MOWR model and implementation steps. CFA was also seen as a liaison able to potentially address state policy issues that could further enhance implementation of MOWR at Agave High School.

School Case Study – School Site C-1 "Sonoran Desert High School"

Introduction to Sonoran Desert High School. I first learned of Sonoran Desert High School's interest in MOWR through the attendance of the school principal at an informational session in fall 2009 that featured Marc Tucker, President and CEO of NCEE, the organization leading the national BES pilot. Given that Sonoran Desert High School was already implementing ACT QualityCore, one of the approved Arizona State Board of Education BES

providers for MOWR, the participation in MOWR was a natural next step for the school (Sonoran Desert High School principal interview, February 2, 2012). Sonoran Desert High School officially joined as a MOWR partner school site in April 2010.

For the purposes of this study, I spent July 2011 through January 2012 learning about Sonoran Desert High School and their implementation of MOWR. During this time, I administered two school surveys (October 2011 and January 2012), participated in two school site visits, three meetings with the school and district leadership, collected a variety of school documents, and recorded and transcribed two school level design team meetings that resulted in 69 transcribed pages of text that were then coded. Interviews were conducted and recorded with two Sonoran Desert High School teachers, the school principal, and the district director of curriculum. Each interview lasted between ten and twenty minutes. Additional sources of data collection for the Sonoran Desert High School case study included transcriptions from monthly MOWR Learning Collaborative meetings held between August 2011 and January 2012. Leadership from Sonoran Desert High School participated in four of the monthly MOWR Learning Collaborative meetings. Given the nature of this participatory action research study, initial data analysis was shared and discussed formally and informally with Sonoran Desert High School administration throughout the course of the study.

Background and characteristics. Sonoran Desert High School opened in 1985 as a vocational educational program. In 1999, the school was renamed and

established as a grade 9-12 academic and career and technical school for full-time students. The school is part of a large urban high school district in a major metropolitan city in Arizona. All of the schools in the district have the same mission statement: "Preparing students for success in college, career, and life" (document review, January 2012).

The school serves 1,446 students as well as 1,047 students who are dually enrolled in the campus, participating in career and technical education programs. As a magnet school, Sonoran Desert High School receives incoming grade 9 students from more than 60 K-8 schools. There are five administrators at the school. The principal has been with the school district for more than 20 years in a variety of roles, and has served as the school principal for four years at Sonoran Desert High School. There are 140 teachers and 84 support staff.

On the school's web site, Sonoran Desert High School describes itself as "a school of choice" where all students "explore their academic and career interests and abilities in a learning environment that exemplifies rigor, relevance, and relationships." This is accomplished through a four-year college preparatory curriculum along with a two-year career and technical educational program made available for all students (school web site, document review, January 2012). The school is located in an urban area of a metropolitan city and is situated on a major street near a community college. Surrounding the school are neighborhoods and businesses. The campus is gated and is comprised of multiple large buildings.

Each time I visited the campus I saw a campus security guard who monitored the gate as people entered the campus.

I found that the staff in the administration building were typically very busy, but friendly and offered assistance upon a visitor arriving. The school follows a traditional calendar year. The regular bell schedules starts at 7:00am with a zero hour and the last class ends at 4:10pm. There are eight classes offered in a day, in addition to the zero hour. Each class is 50 minutes. In addition to the traditional academic schedule, Sonoran Desert High School has a number of different schedules for various career and technical education programs. In all, Sonoran Desert High School offers more than twenty career and technical education programs ranging from engineering to automotive technologies. The school also offers eight vocational programs for students with special needs.

New to the school this year was a student advisory period that students attend every day. Other student academic supports include tutoring and an academic support center, which is mandatory lunchtime tutoring for freshman and sophomore students who have below a C in their classes. The school also partners with a local university, offering a writing center to high school students staffed by college students, as well as special sessions for students on financial planning for college. The school recently won a sustainability grant and is utilizing dollars to integrate more project-based learning into their programs.

Sonoran Desert High School adopted ACT QualityCore as the curriculum for all of their students. ACT QualityCore is one of the Arizona State Board of

Education approved BES options for MOWR. The school first started

implementing ACT QualityCore three years ago in a phased approach. Under the

principal's leadership, the school started by aligning their curriculum to the

standards of ACT following the administration of the ACT Explore exam to

freshman (Sonoran Desert High School principal interview, February 2, 2012).

As of fall 2011, Sonoran Desert High School utilized ACT QualityCore as the

curriculum for all core courses for freshman and sophomore students in

mathematics, English, and science. The curriculum is in the process of being

rolled out to junior and seniors for the first time this year. In addition to core

academic courses, students participate in a career and technical education course

(CATE).

      Student and staff demographics. According to the annual Arizona

Department of Education School Fast Fact Sheets for the school year 2010-2011,

Sonoran Desert High School enrolled 561 students grades 9-12. As shown in

Table 22, the reported student demographics are 2% African American, 93%

Hispanic, and 3% White. The school qualifies as a Title 1 school and 85% of

students qualify for the federal free or reduced lunch program. There are two

Structured English Immersion (SEI) classrooms.

Table 22

Sonoran Desert High School Demographics, 2010-2011

Characteristic	%
Student Race	
Asian	0%
African American	2%
Hispanic	93%
Native American	0%
White	3%
Multi-Racial	0%
Core Academic Teacher Education	
Bachelors	22%
Masters	77%
Doctorate	2%
Core Academic Teacher High Qualified Status	
Not Highly Qualified	0%
Highly Qualified	100%

Note. From Arizona Department of Education School Fast Fact Sheets for the School Year 2010-2011. Student enrollment N=561. Student enrollment spans grades 9-12. Core academic teacher N=60.

As reported on the annual Arizona Department of Education School Fast Fact Sheets for the School Year 2010-2011, Sonoran Desert High School employs 60 core academic teachers. As of the 2010-2011 school year, the majority of staff had more than 10 years teaching experience and of the total teacher population, 100% are highly qualified. School administration includes a principal and

assistant principals for instruction, registration, and student opportunities, and a dean of students.

School's overall academic achievement. Sonoran Desert High School made the federal Adequate Yearly Progress (AYP) goal in 2010-2011. Students at Sonoran Desert High School consistently perform well on the Arizona Instrument to Measure Standards (AIMS) state assessment, typically outperforming the district and state average. Table 23 shows student performance on the statewide Arizona Instrument to Measure Standards (AIMS).

Table 23

Sonoran Desert High School AIMS Data (Percent Meeting/Exceeding) 2010-2011

Cohort/Grade	Math	Reading	Writing	Science
2013 (10th)	66	80	64	35
2012 (11th)	32	48	29	--
2012 (12th)	41	62	--	--

Note. Students in grades 11 and 12 do not take AIMS science. No students in grade 12 took AIMS writing.

Sonoran Desert High School study survey participant description. As participants in this study, Sonoran Desert High School administrators, teacher leaders, and grade 9 teachers were invited to take an electronically administered survey in October 2011 and again in January 2012. Only the post survey results are described within the case study given the finding from the initial quantitative data analysis that no significant differences were found between pre and post survey results for any school site, including Sonoran Desert High School. At Sonoran Desert High School, there were 19 post survey participants. As shown in

206

Table 24, the majority of study participants were female, white, and had between

5 and 16 years of experience in their position.

Table 24

Sonoran Desert High School Participant Demographics Post Survey (N = 19)

Characteristic	%
Gender	
Male	26.6%
Female	71.4%
Race	
African American	9.5%
American Indian	0%
Asian	0%
Hispanic	14.3%
Multiracial	0%
Pacific Islander	0%
White	76.2%
Other	0%
Current position	
Administrator	14.3%
Teacher Leader	38.1%
Teacher	57.1%
Years in current position	
1 – 4 years	14.3%
5 – 10 years	28.6%
11 – 16 years	33.3%
17 – 24 years	19.0%
25 – years or more	4.8%
Grade level currently taught	
Grade 9	57.1%
Grade 10	47.6%
Grade 11	42.9%
Grade 12	38.1%
Not Teaching	9.5%

Table 25 shows the subjects taught by the Sonoran Desert High School
respondents who participated in the MOWR post survey. The individuals who
responded to the survey taught a diverse group of subjects. The core academic
areas were represented by at least one respondent.

Table 25

*Sonoran Desert High School Post Survey Participant Response for Subject
Taught*

Subject Taught	#
English	1
Math	3
Social Studies/History	2
Science	2
Foreign Language	1
Visual and Performing Arts	0
Yearbook/Newspaper	0
Physical Education	1
Technology	0
Business	3
Vocational	3
Special Education	0
English as a Second Language	0
Other	4
Not Teaching	2

Note. N=19. Total response does not total the N because some respondents indicated they taught
more than one subject.

Research question 1.1. In order to answer the first research question, "To
what extent and in what ways is MOWR being implemented at the local school
level?" the following instruments were used: the MOWR school level survey

questions related to implementation of MOWR and BES, the MOWR school level

design team observations (69 pages transcribed), school site visit observations,

teacher and administrator interviews, and a review of school documents.

Additional cross-case data collection included MOWR Learning Collaborative

observations (150 pages transcribed). All meetings were recorded and

transcribed. The findings are discussed below within this section.

Ten questions in the MOWR school level survey concentrated on

perceptions of MOWR and BES implementation. A scale was developed for the

construct of implementation. Post survey results on the MOWR and BES

Implementation scale for Sonoran Desert High School are shown below in Table

26.

Table 26

Post-Test Survey Results for Sonoran Desert High School (Site C-1) on MOWR and BES Implementation Scale

Respondents	n	Mean	SD
All Respondents	19	31.00	5.28
Administrators	3	27.00	1.73
Teacher Leaders	7	32.71	4.89
Teachers	11	30.91	5.45

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*. The scale contained 10 items. Possible range for the scale was 10 to 50.

For all school respondents the mean response fell closest to *neither agree*

nor disagree (M=31.00, SD=5.28). Administrators reported slightly more

favorable responses for implementation with a mean response that fell slightly

above *neither agree nor disagree* (M=27.00, SD=1.73). The mean teacher and

teacher leader responses were consistent with the mean response of all

respondents.

     Extent of implementation. In order to examine the aspect of research

question 1.1 that focused on extent of MOWR and BES implementation, an item

analysis was completed for the six survey questions that specifically addressed

extent of program fidelity, student participation and awareness of the reform, and

self-reported changes in instructional delivery. Table 27 shows the results of the

item analysis for these questions at Sonoran Desert High School.

Table 27

Post-Test Survey Results for Sonoran Desert High School (Site D-2) on Extent of Implementation Item Analysis

Item	Respondents	n	Mean	SD
The Board Examination System (Cambridge or ACT QualityCore) course syllabus is consistently used	All Respondents	19	3.16	.76
	Administrators	3	2.33	.58
	Teacher Leaders	7	3.71	.76
	Teachers	11	3.00	.45
Students are aware of the Board Examination System curriculum	All Respondents	18	3.22	.45
	Administrators	3	2.67	.58
	Teacher Leaders	7	3.29	1.11
	Teachers	11	3.20	.79
Students are aware of the option to qualify for a Grand Canyon High School Diploma	All Respondents	19	3.16	.76
	Administrators	3	3.00	.00
	Teacher Leaders	7	3.29	.76
	Teachers	11	3.01	.83
All students in Grade 9 are enrolled in Board Examination System courses in my department	All Respondents	17	3.47	1.01
	Administrators	3	3.67	.58
	Teacher Leaders	6	3.33	1.03
	Teachers	11	3.40	1.07
I have participated in Board Examination System training	All Respondents	19	3.74	1.15
	Administrators	3	3.00	1.73
	Teacher Leaders	7	4.00	1.00
	Teachers	11	3.91	1.04
My instructional delivery has changed by using the Board Examination System	All Respondents	19	3.11	.66
	Administrators	3	3.00	.00
	Teacher Leaders	7	3.14	.90
	Teachers	11	3.18	.60

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*.

Respondents were somewhat ambivalent about implementation of MOWR and BES. For the majority of questions, the mean response for all respondents

fell closest to *neither agree nor disagree*. For all respondents, Sonoran Desert High School was most positive when asked if instructional delivery had changed by using the BES (M=3.11, SD=.66) on a Likert scale of 1 to 5, where 1 indicated *strongly agree* and 5 indicated *strongly disagree*. The mean response fell nearly at *neither agree nor disagree*. For all respondents, Sonoran Desert High School was least positive when asked if they had participated in BES training (M=3.74, SD=1.15) with a mean response that fell between *neither agree nor disagree* and *disagree*, but much closer to *disagree*. The mean response was similar when asked if all students in grade 9 were enrolled in BES courses within their department (M=3.47, 1.01).

When examining the item analysis results by school position, the results showed that for every item within the MOWR and BES Implementation scale, administrators responded slightly more favorably than did teachers and teacher leaders with the exception of the item, "All students are enrolled in BES courses in my department" to which teachers responded slightly more favorably than administrators. Difference in mean responses between administrators and teachers was most apparent when examining the mean response for the item, "The BES (Cambridge or ACT QualityCore) course syllabus is consistently used." For this item, the mean administrator response (M=2.33, SD=.58) fell between *agree* and *neither agree nor disagree*, but closest to *agree* and the mean teacher response (M=3.00, SD=.45) fell exactly at *neither agree nor disagree*. This suggests that administrators perceive the ACT QualityCore syllabus is used more

regularly than teachers perceive it is used. Difference in mean responses between administrators and teachers was also apparent when examining the mean response for the question that asked about participation in BES training, where the mean administrator response (M=3.00, SD=.66) fell at *neither agree nor disagree* and the mean teacher response (M=3.91) fell closest to *disagree*. Results strongly indicated that for teachers, there was little evidence they participated in BES training.

Quantitative analysis of the items that address extent of implementation of MOWR and BES quantitative data at Sonoran Desert High School showed little evidence from administrators or teachers to support one way or the other that students are aware of the BES curriculum, that students are aware of the option to qualify for a Grand Canyon High School Diploma, or that instructional delivery changed as a result of the BES system. Results indicated that not all students are enrolled in BES courses.

Ways in which MOWR is being implemented. In order to further answer research question 1.1 and to specifically address the ways in which MOWR is being implemented at Sonoran Desert High School, findings from the school survey quantitative data analysis along with the qualitative data analysis from the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and school documents were utilized. Additional cross-case data from the MOWR Learning Collaborative observations

provided confirming and disconfirming evidence. The findings are discussed below within this section.

Cohort model in transition to a whole-school model. Sonoran Desert High School implemented the MOWR model as a cohort program beginning in fall 2011, with thirty-two grade 9 students (Sonoran Desert High School design team meeting, September 11, 2011). Although Sonoran Desert High School utilizes ACT QualityCore for all math, English, and science courses for all grade 9 and 10 students, they had historically not offered history, a course required for the Grand Canyon High School Diploma in the freshman year (Sonoran Desert High School design team meeting, September 11, 2011). Given the need to make changes to course sequencing in order to participate in MOWR, the principal made the decision to establish a MOWR cohort based on student and family interest in the MOWR initiative. The principal said she held a parent meeting prior to the start of the 2011-2012 academic year to identify family and student interest. She was surprised at the level of enthusiasm.

> So I had a parent meeting last year for our incoming freshman parents, explaining what the MOWR initiative was about and telling them there was an option for a cohort at the freshman level to be our first cohort who would be eligible for the Grand Canyon High School Diploma because they would be in our one section of U.S. history that we planned to offer at the sophomore level. And I had thirty-one parents show up, thirty-one families represented, and every single one of them wanted to be in this

215

program. I was really very amazed at the level of enthusiasm that the parents had in response to this option. (MOWR Learning Collaborative meeting, August 25, 2011)

The MOWR cohort program was open to all students. When describing the model during the August 2011 MOWR Learning Collaborative meeting, the principal said, "They [the students] weren't hand selected based on GPA or any other criteria. These are kids that wanted to be in the program, that were motivated" (MOWR Learning Collaborative meeting, August 25, 2011).

The students in the cohort also took ACT Quality Core math, ACT Quality Core English, and ACT Quality Core Biology, all required courses for the purpose the Grand Canyon High School Diploma. The principal stated that the only thing that was unique about the students in the MOWR cohort in comparison to their peers was the fact that they were taking ACT QualityCore U.S. history in grade 9.

The only thing that is unique for them [the cohort of 32] is they're taking a U.S. history class as a freshman . . . Because in every other subject, the ACT Quality Core is part of the curriculum for biology, for math, for English. So all the students are getting that curriculum, but these students have the opportunity for the Grand Canyon High School Diploma because they'll be in the right sequence. (Agave High School principal, design team meeting, October 2, 2011)

Despite the fact that all grade 9 students were in ACT QualityCore courses for the core areas, with the exception of U.S. History, responses on the MOWR

216

school survey administered in January 2012 indicated that administration and staff did not perceive all grade 9 students were enrolled in BES courses. When asked to respond to the survey item, "All students in Grade 9 are enrolled in Board Examination System courses in my department," the mean response for all respondents at Sonoran Desert High School fell between *neither agree nor disagree* and *disagree* (M=3.46, SD=1.01), where a response of 1 indicated *strongly agree* and a 5 indicated *strongly disagree* on a 5 point Likert scale. This response was consistent with the mean response for all school positions.

The students who volunteered to participate in the MOWR cohort were identified prior to the start of the 2011-2012 academic school year. For the students who expressed interest, guidance counselors at the school identified their AIMS scores, referred to teacher recommendations in some instances, and put together schedules for each of the thirty-two students (site visit, October 2011). Some students were identified as possibly needing additional academic support prior to the school year. A school guidance counselor said that they tried to enroll some of the MOWR cohort students into summer reading and math courses who needed additional academic support in these areas.

> There were a few students we were concerned about that needed reading. And so we tried to get them into summer school reading, some needed a little boost in math, so we tried to get them into the intro class over the summer. (Agave High School guidance counselor, design team meeting, October 2, 2011)

When asked if the school had done any sort of analysis as to how the MOWR cohort students were performing academically, the principal indicated that she had talked with the students some and while they had not yet done so, she wanted to monitor their academic progress (Sonoran Desert High School design team meeting, September 11, 2011).

> We really need to put a file together on the kids and then I want to have another meeting with their parents and make sure that everybody's aware of what this looks like and what the kids are doing, and then we'll have to be tracking them very closely to see how they're doing in their classes and make sure there are no surprises for anybody. (Sonoran Desert High School principal, design team meeting, September 11, 2011)

As early as August 2011, the principal expressed interest in expanding the MOWR cohort at Sonoran Desert High School to make the MOWR initiative available to more students. She said, "So we're looking at this as a pilot year for this U.S. History course, and then we'll have to have more conversations at the district level and here on campus about how wide to make it for next year" (MOWR Learning Collaborative meeting, August 25, 2011). During a site visit in October 2011, it became clear the principal was seriously considering implementing the MOWR model school-wide. She stated that Sonoran Desert High School already considered their approach a whole-school model, but that they wanted to expand the U.S. history options in grade 9 so that more students could qualify for the Grand Canyon High School Diploma.

Yeah, we think of ourselves as a whole school already. We're whole

school already because the curriculum is the ACT curriculum in all our

core subjects. The reason we want to expand the number of students who

are going to take U.S. history is because we want more students to be able

to get the Grand Canyon Diploma. (Agave High School principal, design

team meeting, October 2, 2011)

CFA first learned of the school's decision to actually move forward in

implementing the model school-wide beginning in fall 2012 during a district

principal meeting. The principal of Sonoran Desert High School made a brief

presentation on MOWR to her colleagues and stated that the school would

implement MOWR school-wide next year. She said she needed a "college and

career readiness curriculum across the content areas," and that she felt like it was

"the right thing to do to make this option available to all kids" (district principal

meeting, February 1, 2012).

Changes in course sequencing and staffing. The implementation of

MOWR at Sonoran Desert required attention to course sequencing and staffing.

As previously described, in order for students to participate in MOWR, they

needed the option of taking a history course in grade 9. Sonoran Desert High

School made the sequencing and staff changes necessary to offer one section of

U.S. history in fall 2011 (Sonoran Desert High School design team meeting,

September 11, 2011).

Sonoran Desert High School's decision to implement MOWR school-wide in fall 2012 was coupled with course sequencing and staffing challenges. Sonoran Desert High School realized that to move to this model would require an "investment wave" that the school and therefore district would face for a few years as the school would have grade 9 students and grade 10 students all taking U.S. history, essentially doubling sections of course offerings in history for a period of time (Sonoran Desert High School principal, district meeting, November 3, 2011).

Additional courses impacted by the implementation of MOWR at Sonoran Desert High School were economics and world history, two courses historically offered at the school to students in their junior or senior year. The MOWR policy requires that students have the opportunity to take a half-credit of economics along with BES examinations in U.S. and world history at some point during the first two years of their high school experience for the purposes of being able to qualify for the Grand Canyon High School Diploma. While Sonoran Desert High School was actively exploring options relative to making these courses available for all students, the school had not yet made any official decisions as there were unique challenges that needed to be addressed related to staffing and availability of resources (Sonoran Desert High School principal, district meeting, November 3, 2011).

Student supports. When asked if students at Sonoran Desert High School were ready for the BES, the mean response for all respondents fell between

neither agree nor disagree and *disagree* (M=3.63, SD=.76), but closer to *disagree*

on a 5 point Likert scale, where 1 indicated *strongly agree* and 5 indicated

strongly disagree. This response was consistent with the mean response for all

school positions, suggesting that the perception of the school faculty and

administration was students might not be academically ready for the ACT

QualityCore curriculum.

One of the challenges Sonoran Desert High School faced was the large

number of K-8 districts from which they receive students. The number of feeder

K-8 districts makes it nearly impossible from the perspective of the principal to

address academic readiness issues prior to students arriving at the high school.

The Sonoran Desert High School principal said that the district might need to

assist the school in addressing this challenge.

> Again, it's the interventions of how do you help these kids who are
>
> struggling? 'Cause we don't have a way that I can wrap my head around,
>
> reaching down and getting them in eighth grade or seventh grade or sixth
>
> grade, because they come from 60 different schools. And we don't have a
>
> way of articulating with their teachers. I think that's something the district
>
> needs to do, in fact I just brought that up yesterday in the principals'
>
> meeting that we really need to do more. I would love for our math
>
> teachers to talk to the math teachers at the seventh and eighth grade, so
>
> that they can have those conversations, but I don't know how to do that

221

with 60 schools. (Agave High School principal, design team meeting, October 2, 2011)

Sonoran Desert High School took steps this year to offer new types of student supports. In addition to what the principal described as systematic kinds of interventions such as algebra labs, the Read 180 program, and tutoring, the school implemented an advisory period for all students. The principal described the new advisory model at Sonoran Desert High School during an August 2011 MOWR Learning Collaborative meeting. She said that the school believes advisory will assist in providing support to students in a timely way and can offer a place where students can make important connections with others.

> We think that's going to be a very timely intervention for identifying kids early and providing that extra support, which is going to be necessary for all the rigor. . . . It's a very similar kind of homeroom place for kids to get extra help if they need it, but also to make important connections with each other and with their teachers. (MOWR Learning Collaborative meeting, August 25, 2011)

Administration at Sonoran Desert High School seemed pleased with the early success of advisory. During a September 2011 site visit, the assistant principal for curriculum described advisory as "beautiful" and went on to say, "You see the kids are functioning, they are working, they are using the time, which in the past I think our kids haven't done things like that" (Sonoran Desert

High School assistant principal for curriculum, design team meeting, September 11, 2011).

Identifying and addressing the needs of struggling students appeared to be a priority for the administration. The use of the professional learning community (PLC) model as a way to focus the use of academic interventions was discussed at every design team meeting by the administration. The principal said, "In the PLCs we are looking at what are we doing for interventions in the classroom during the instructional time . . . we're really focusing on making sure our PLCs have conversations about interventions, academic interventions in the classroom" (design team meeting, October 20, 2011). Leadership at Sonoran Desert High School also appeared to be open to identifying new types of student interventions, such as the use of technology as a tool for student intervention and support. The principal explained that she was continuing to explore "any kinds of interventions that involve technology, because there's a real solid application for adaptive software as an intervention tool (Agave High School design team meeting, October 20, 2011).

While the school was committed to assisting students who struggle academically and to providing the tools and resources they need, the administration seemed to feel strongly that addressing deficiencies was a shared responsibility between the school and the students and their families, with much of the responsibility belonging to the students. During an October 2011 site visit

to Sonoran Desert High School, the principal said that students needed to take responsibility for figuring out how to address academic deficiencies.

> We have to put the onus on the kids. You're going to have to use your free time for this because we can't find any more time in the day for you. We've got you in classes, remediation classes or on track classes all day long, so you have to use this software outside of the time. Plus you have to do your homework, plus you have to practice, you have to do those kinds of things. And if you come with deficiencies, really it's your responsibility to figure out how to bring those deficiencies up. And we're here to help in every way we can, but we have to have a greater share of responsibility onto the students and their parents if we're going to get them and keep them at the level that we need them to be at. (design team meeting, October 20, 2011)

This theme was reiterated during the principal's presentation to her colleagues on MOWR at a February 2012 district principal meeting. The principal said, "It is up to families and students to address deficiencies" (Sonoran Desert High School principal, principal meeting, February 1, 2011).

Research question 1.2. In order to answer the second research question, "What are the factors that appear to enhance or impede implementation of MOWR at the local school level?" the following case study instruments were used: the MOWR school level survey questions, the MOWR school level design team observations, school site visit observations, teacher and administrator

224

interviews, and a review of school documents. The transcripts from the MOWR

Learning Collaborative meetings were used for confirming and disconfirming

evidence. The findings are discussed below within this section.

> ***Trends that emerged from the quantitative data analysis.*** Post survey

results from the MOWR school survey administered in January 2012 to

administrators, teacher leaders, and grade 9 teachers at Sonoran Desert High

School showed that all respondents responded positively on the District Context

scale and the Personal Efficacy scale with mean responses that fell near *agree* and

moderately agree on each scale respectively. Results showed that for all

respondents at Sonoran Desert High School on the survey scales for School

Capacity, Selection Process, BES Design and Support, MOWR Design, and

Teaching Efficacy, the mean response fell at or near *neither agree nor disagree*.

> When examining the responses by position, the mean response from

administrators and teachers varied from each other with the exception of the BES

Design and Support scale and the Personal Efficacy scale. These differences were

most apparent for School Capacity, Selection Process, and MOWR Design. For

the School Capacity scale, the mean administration response was closest to *agree*,

whereas the mean teacher response was closest to *neither agree nor disagree*.

This suggests that administrators held more positive perceptions regarding school

capacity to implement MOWR than did teachers. For the Selection Process scale,

the mean administration response fell between *strongly agree* and *agree*, whereas

the mean teacher response was between *neither agree nor disagree* and *disagree*.

225

Similarly, when asked about MOWR Design, the mean administrator response was between *strongly agree* and *agree*, and the mean teacher response was near *neither agree nor disagree*. These findings indicate administrators were much more favorable in their views of BES selection and MOWR design than teachers, who seemed to be uncertain or perhaps indifferent.

Correlation coefficients were computed to determine if there was a relationship at Sonoran Desert High School between the MOWR and BES Implementation scale and any of the other MOWR survey scales related to the constructs identified in the research literature that can enhance or impede implementation of school reforms. As shown in Table 28, the results of the correlational analysis showed correlations were statistically significant between the MOWR and BES Implementation scale and the following four scales: District Context, School Capacity, BES Design and Support, and MOWR Design.

Table 28

Sonoran Desert High School MOWR and BES Implementation Scale Correlations

Scale	District Context	School Capacity	Selection Process	BES Design and Support	MOWR Design	Personal Efficacy	Teaching Efficacy
MOWR and BES Implementation	.54*	.56**	.44	.76**	.76**	.16	-.11

Note. N=19.
* $p < .05$. ** $p < .01$.

The strongest relationship appeared to be between the MOWR and BES Implementation scale and the following two scales: the School Capacity scale and the MOWR Design scale. The data also suggests a strong relationship existed

226

between the MOWR and BES Implementation scale and the School Capacity scale. No relationship appeared to exist between the MOWR and BES Implementation scale and the Selection Process, Personal Efficacy, or Teaching Efficacy scales.

Correlation coefficients were also computed to determine if there was a relationship at Sonoran Desert High School for teacher respondents between the MOWR and BES Implementation scale and any of the other MOWR survey scales. The results showed the correlation between MOWR and BES Implementation and BES Design and Support scales was significant, $r(9) = .65$, $p < .05$. The results also showed the correlation between MOWR and BES Implementation and MOWR Design scales was significant, $r(9) = .73$, $p < .05$. These patterns are further explored through quantitative data item analysis from the Sonoran Desert High School post survey results and through the findings that emerged from the analysis of the qualitative data for the purpose of more fully understanding what factors appeared to enhance or impede implementation of MOWR at Sonoran Desert High School.

Principal as the driver for MOWR. The principal at Sonoran Desert High School provided direct leadership for the MOWR initiative at the school. She was instrumental in the decision to adopt MOWR, and as one teacher described it, "She was the spear header for it all . . . she went to the meetings and got the information and just presented it to us [the staff] as an option" (Sonoran Desert High School teacher A interview, January 26, 2012).

227

The principal self-identified as the person who was leading the MOWR effort at Sonoran Desert High School. During an interview with the principal, she said that she was "the one that's been facilitating, helping manage, and roll out the program" (Sonoran Desert High School principal interview, February 2, 2012). This was consistent with the way in which teachers and district leadership described the role of administration in MOWR at the high school.

One of the teachers interviewed said that the principal provided full support for MOWR. The teacher said, "Full contribution and support has come from the principal. 'Whatever it takes' is the mantra of our administration" (Sonoran Desert High School teacher A interview, January 26, 2012). Another teacher who was interviewed confirmed that the school administration was leading the MOWR effort. He said, "From what I see they've done quite a bit to get it going. They seem to be all behind it. It seems to be the focus of what we are doing at the school" (Sonoran Desert High School teacher B interview, January 26, 2012).

Conversations with district administration indicated the district also identified the principal and her administrative team as the leaders for MOWR at Sonoran Desert High School. The district director of curriculum said that the school site administration really contributed the leadership for MOWR and was responsible for creating the change on the Sonoran Desert High School campus.

It is their [school site administration] vision for their campus that has

really allowed this to come to fruition. Their leadership, their guidance

228

with their teachers to be able to help them make this shift. They have

really taken on the bulk of making this happen on their campus. (district

administrator interview, February 2, 2012)

The principal appeared to advocate for MOWR on behalf of Sonoran

Desert High School. The principal recognized that in order to expand the MOWR

model beyond a cohort approach in a manner that was consistent with state policy

she would need the support of the district. During a September 2011 design team

meeting the principal said, "I'm taking this year just to sort of analyze it and get

feedback from the teachers and the students and so then we can advocate for what

we think is the right thing to do. Because then we'll make the district go our way,

or we hope" (Sonoran Desert High School principal, design team meeting,

September 11, 2011). The principal vocalized her support of MOWR to district

leadership and lobbied for the model to be expanded at Sonoran Desert High

School. During a meeting with the district office in fall 2011, the principal asked

the district leadership what direction the district wanted to go relative to MOWR

and encouraged consideration for a whole-school approach. The principal said,

"If we want to do this on a large scale so that all kids have an opportunity, then

we have some temporary staffing issues. Personally I think we should do it all

school" (district meeting, November 3, 2011).

Even though the principal provided the leadership for MOWR, there was

evidence to suggest that a number of decisions relative to MOWR remained

within the control of the district. The principal said that the school needed

229

guidance from the district regarding administration of the district benchmark exams in conjunction with the ACT QualityCore end-of-course exams, and indicated that there were other curriculum decisions to be made by the district.

> We need further clarification and decisions regarding the CRT [district-wide criterion reference exams] tests versus ACT end-of-course tests and do we need to do both end of second semester. There are some other pretty big decisions that have to be made around curriculum that involve the district sitting down and making those types of decisions.

Similarly, when CFA asked the principal about any decisions made relative to how Sonoran Desert High School will offer economics to students in their first two years of high school in order to be consistent with the requirements of the Grand Canyon High School Diploma the principal said nothing had been finalized "because that's going to involve conversations at the district level of course" (Sonoran Desert High School principal, design team meeting, September 11, 2011).

Conversations with district administration and teachers, as well as observations at the school site, indicated the principal was fully supportive of MOWR and clearly leading the effort at the school. However, the MOWR survey provided disconfirming evidence that suggested not all teachers may hold the same perception. When asked to respond to the survey item, "Our administrators believe the MOWR model was a good choice for our school," the mean administrator response was closest to *strongly agree* (M=1.3, SD=.58) and the

230

mean teacher response fell between *agree* and *neither agree nor disagree* (M=2.4, SD=.67). This suggests that administrators believed that they themselves saw the MOWR model as a good choice for the school, but that teachers may not have held that same perception of administrator belief in the MOWR model.

   District engagement. The district provided support to Sonoran Desert High School in the implementation of MOWR primarily through allocation of resources and approval for changes in course sequencing and staffing. The district director of curriculum said that the district provided different levels of support.

   The district really has supported schools in the sense of the schools really are partially determining what their needs are and coming to the district to help guide them through whether it be a budget issue to implement something, a proposal they have presented to leadership to make some necessary changes on their campus to now take a small cohort of MOWR students to a school-wide implementation. So the district's job has really been to look at different levels of support - how do we help with professional development, how do we help schools with allocating either additional title dollars to those settings or providing some flexibility in how they use their staff to appropriately implement. (district administrator interview, February 2, 2012)

   The district provided monetary support to Sonoran Desert High School to facilitate implementation of MOWR (Sonoran Desert High School principal

interview, February 2, 2012). All schools in the district, with the exception of

one, were implementing the ACT QualityCore curriculum. Given this, the district

provided the support necessary to bring teachers together from across the district

to work on ACT QualityCore curriculum. The Sonoran Desert High School

principal indicated that the district support over the summer for curriculum

revision was particularly helpful (MOWR Learning Collaborative meeting,

August 25, 2011).

Another clear signal of the district's support of Sonoran Desert High

School's implementation of MOWR was the decision by the district to allow the

school to move to a whole-school implementation of MOWR for fall 2012. The

principal said in an interview that she was "very pleased that they supported us in

that request" (Sonoran Desert High School principal interview, February 2, 2012).

While there was evidence that the district supported the school in their

efforts to implement MOWR, there was also evidence to suggest that district

leadership may not fully understand the long-term vision of MOWR. Following a

November 2011 meeting that involved district leadership and a few principals,

including the principal of Sonoran Desert High School, the district director of

curriculum shared with me and the NCEE Arizona engagement manager that she

didn't necessarily see "the vision" for MOWR and felt that she needed to be part

of more district leadership discussions (district meeting, November 3, 2011).

During the district administrator interview, she also indicated that she was still

thinking through how the MOWR model would be different from current

practices in the district for those students who qualify for the Grand Canyon High

School Diploma and choose to stay in high school and enroll in programs of study

such as International Baccalaureate. She spoke about the fact that the district

already offered these types of programs to students independent of MOWR

(district administrator interview, February 2, 2012).

Alignment with goals and interests of Sonoran Desert High School.

Sonoran Desert High School has a publicly stated mission of preparing students

for success in college, career, and life (document review, January 2012). When

asked if the school's vision, mission, and goals are aligned with the MOWR

model, the mean teacher response fell between *agree* and *neither agree nor*

disagree, whereas the mean response from administration fell between *strongly*

agree and *agree*. This suggests that administrators may perceive a closer

alignment between MOWR and the goals of the school than do teachers.

Conversations with teachers portray a range of views relative to the

alignment of MOWR and the school's mission and goals. In an interview, a

teacher said that the school decided to implement MOWR because, "they feel that

it is actually a good model for getting kids ready for colleges and universities and

giving them an alternative to just a regular 4-year school" (Sonoran Desert High

School teacher B interview, January 26, 2012). Another teacher interviewed

mentioned that the principal was focused on college and careers as a goal for the

school, but emphasized that the decision to implement MOWR at Sonoran Desert

High School was really "all about options" (Sonoran Desert High School teacher

233

A interview, January 26, 2012). In contrast, administrators appeared to see clear connections between MOWR and the mission and goals of the school. When asked during an interview why the school adopted MOWR, the principal said, "I want a college and career readiness curriculum in all of our core subjects available to all of our students" (Sonoran Desert High School principal interview, February 2, 2012). Similarly, during a district principal meeting the Sonoran Desert High School principal articulated her decision to adopt MOWR with her need to have a college and career readiness curriculum across the board (district principal meeting, February 1, 2012).

Conversations with school leadership and observations in meetings indicated there was alignment between MOWR and a number of other efforts either already in place or that were soon to be in place at the district and school level. From the perspective of the principal, the adoption of MOWR was a "natural move" for Sonoran Desert High School because they had already started aligning to ACT Quality Core three years ago (district principal meeting, February 1, 2012). In addition to alignment with curriculum changes, the school leadership saw connections between initiatives at the district level and that of MOWR. The district is part of a large grant to pilot a new performance-based evaluation system. The principal said she believed the effort was "affirming" for everything the campus is doing, including "every initiative we have" (Sonoran Desert High School principal, design team meeting, September 11, 2011). The principal stated that the alignment of MOWR with other state, district, and school

initiatives was particularly important in helping teachers to see how these efforts work together.

> Everything that the teachers learn about this new evaluation rubric helps them understand the importance of what we're talking about . . . not only rigor, but of course best practices, student engagement, formative assessments, all the things we know need to happen, and the things that are embedded within the curriculum that we're working on. And then the growth model that the state has adopted that's part of our new label also helps our teachers understand the importance of identifying learning gaps on an individual, not just sub group or whole class level. (Sonoran Desert High School principal, MOWR Learning Collaborative meeting, August 25, 2011)

With regard to state standards and assessments, Sonoran Desert High School leadership appeared to perceive that ACT QualityCore was in alignment with the Common Core State Standards and AIMS, Arizona's state assessment. The principal said that she saw direct alignment between the Common Core State Standards and ACT QualityCore, and attributed use of the ACT QualityCore as a reason why the school's AIMS scores increased.

> The ACT QualityCore standards are in direct alignment to the Common Core State Standards that the state has adopted and we've been using those standards, ACT QualityCore standards, for a couple of years and have seen that it has in fact raised our AIMS achievement. So I don't harbor

any kinds of concerns about the students being prepared to take the AIMS assessment based on the curriculum that we're doing. (Sonoran Desert High School principal, MOWR Learning Collaborative meeting, August 25, 2011)

Teacher engagement. While involved in teaching the ACT QualityCore courses, teachers at Sonoran Desert High School seemed to play more of a passive role relative to implementation of MOWR. Item analysis of the MOWR survey results showed that teachers at Sonoran Desert High School did not believe they were involved in the adoption of the MOWR model nor did they feel that they had a voice in how the MOWR model develops at the school. When asked to respond to the survey item, "I was involved in the adoption of the MOWR model" the mean teacher response (M=4, SD=1.0) fell at *disagree* on a 5 point Likert scale, where 1 indicated *strongly agree* and 5 indicated *strongly disagree*. When asked to respond to the survey item, "I have a voice in how the MOWR model develops at my school," the mean teacher response (M=3.64, SD=1.21) fell closest to *disagree* on a 5 point Likert scale, where 1 indicated *strongly agree* and 5 indicated *strongly disagree*.

There is evidence that teachers were made aware of the school's adoption of the MOWR model, but were not necessarily involved in the decision nor engaged in the implementation. The principal stated that the MOWR model was presented to the teachers, and indicated that the teachers were not really involved as they were busy with training and other school activities.

236

The MOWR framework was rolled out to them [teachers] last year as we

talked about bringing in the first group of freshmen. It really didn't

resonate with a lot of teachers because they weren't directly involved.

They were busy working on their curriculum, some of them going to

training with ACT, some of them using the PLC format to get training

with each other's assistance. But now that we are going school-wide, now

it's going to start resonating and start being more meaningful for our

teachers in a way that it really hasn't been before. (Sonoran Desert High

School principal interview, February 2, 2012)

The teachers interviewed indicated administrators made the initial decision

to adopt the MOWR model and implement it as a cohort approach, and also made

the decision to expand to a whole-school model (Sonoran Desert High School

teacher A interview, January 26, 2012).

Teacher commitment and capacity. When asked to respond to the survey

item, "I believe the MOWR model is a good model for our school," for all

respondents the mean response fell closest to *agree* (M=2.05, SD=.74). However,

when examining the mean response by school position, the data showed that the

mean teacher response fell between *agree* and *neither agree nor disagree* (M=2.4,

SD=.67). Similarly, when asked to respond to the statement, "I am personally

motivated to make the MOWR model work in my classroom," the mean teacher

response fell near *neither agree nor disagree* (M=2.91, SD=.79). This suggests

that teachers may be indifferent with regard to their motivation for MOWR and

237

while some may believe that the MOWR model is a good fit for Sonoran Desert High School, others are unsure.

In talking with administration about the teaching staff at Sonoran Desert High School, they expressed challenges relative to teacher commitment to MOWR. The principal said that the school has a veteran teaching staff that is committed to the school, but not always committed to new initiatives.

> And I mentioned that they [teachers] really are very committed to the school, very passionate about the school, have a lot of identification with [Sonoran Desert High School]. Some of them have been through the different transitions that [Sonoran Desert High School's] been in, from being a vocational only school to then being an academic and vocational school. But they also can be more resistant to initiative because they can be more set in their ways. Although I have to say, I've thrown a lot of initiatives at them since I've been here and overall, they've been with me. I think they've been with me on it. It's just that the level of ownership over those initiatives we would like to see deeper than it is.

When talking about the teaching staff, the assistant principal for curriculum said, "It's a struggle to get the level of commitment, the level of energy" (Sonoran Desert High School assistant principal for curriculum, design team meeting, September 11, 2011)

With regard to teacher capacity, there was recognition by the administration that the teachers needed support in their work with ACT

238

QualityCore and MOWR. The principal said it was challenging for many

teachers to implement the ACT QualityCore curriculum last year, but that this

year there were teachers who could provide support to others in their curriculum

work.

> We're moving from freshman/sophomore courses to junior/senior courses
>
> this year, and so we were fortunate that we had our freshman/sophomore
>
> teachers who were able to help sort of model and support the
>
> junior/seniors who met over the summer to write curriculum. And so
>
> they're in a much better place than we were last year when we sort of
>
> rolled this out the first couple of weeks into the school year, and teachers
>
> really didn't have time to write curriculum prior to the beginning of the
>
> school year. (Sonoran Desert High School principal, MOWR Learning
>
> Collaborative meeting, August 25, 2011)

One of the ways that the school tried to provide support to teachers was

through the more regular use of the professional learning community (PLC)

model. In reviewing Sonoran Desert High School's continuous school

improvement plan, the PLC was consistently referenced as a collaborative

strategy for implementing the ACT QualityCore framework in support of the

larger goal of graduating students ready for college, technical school, or

university (document review, January 2012). To the principal, the PLC model is

critical to the implementation of MOWR and ACT QualityCore. During an

October 2011 design team meeting CFA talked about the performance-based

239

component of MOWR and the philosophy that all students can achieve a college readiness level if time is seen as a variable and not as an absolute. The principal responded to CFA's description of MOWR by stating how important the PLC structure was to Sonoran Desert High School in order to engage in those kinds of conversations about performance-based learning and models of instruction with teachers. The principal said, "The administration can help, the professional development person can help, but it's really sitting with your peers and saying, 'What are we going to do, let's try this. Why don't you try it and then come back and let us know how it worked and then we'll try it'. . . . That's at the heart of PLCs. And without that structure, something like this cannot work" (Sonoran Desert High School principal, design team meeting, October 20, 2011).

Findings from the qualitative suggest that while the school administration saw the PLC model as an essential tool and resource for teachers in the implementation of MOWR, there were some challenges with PLC model itself at Sonoran Desert High School. The PLC structure was not new; it had been in place for seven years at the school. When the administration said that the PLC model had been in place for seven years, they emphasized the word "seven" and said, "We say it like that because we think by now we should be so much further" (Sonoran Desert High School assistant principal for curriculum, design team meeting, October 20, 2011). Teachers received training in the PLC model, but for some it was a while ago and others have since been hired by the school and have not received training. In the past the PLCs met twice a month, but this year for

the first time they met every Wednesday through "PLC seminars." The administration said that they worked more closely with some PLC groups than others. "So we have three groups . . .Our teams that are functioning well we don't really meet or deal with. But it's our zero 87's that each of us has a team that we kind of meet with" (Sonoran Desert High School design team meeting, October 20, 2011).

The school seemed to see evidence of increased capacity and commitment on the part of teachers to teach the ACT QualityCore curriculum. The assistant principal for curriculum said she saw signs of increased confidence in the teachers who were in their second year of teaching the grade 9 and 10 ACT QualityCore courses. She said, "Our freshman, sophomore English and math teachers are feeling more confident. They believe in it. They think this is the right thing to do with the kids. They think the rigor is where we need to go. So it's a positive so far" (Sonoran Desert High School assistant principal for curriculum, design team meeting, September 11, 2011).

The school administration appeared to try and build on the growing teacher support for ACT QualityCore. The principal stated that the faculty as a whole was engaged in conversation about rigor and relevance. She said, "This is a really critical era we're in right now because the conversation around increased rigor and relevance is a conversation that everybody's onboard with. I don't really think there's anybody standing back and saying we can't do this or this is dumb" (Sonoran Desert High School principal, design team meeting, October 20,

2011). The principal went on to say that the teachers were starting to see results in student learning, but acknowledged that it was critical for the school to find ways for teachers to continue to build on their successes.

> The kids are moving with you, but as we get more and more kids involved, you're going to have potentially more and more kids slipping through the net, and if we don't have those nets in place, if we don't have a way to, then there's a potential for a backslide. There's a potential for the teacher to say, "You know what? I knew it couldn't work. I knew our kids weren't ready. I knew this was too much for them, it's too hard." And so it's really critical that we keep them going in the right direction and we keep being able to build on the successes that we're having. And when you have people like [Serena], who like last year, just saw a breakthrough. I mean she just saw a breakthrough with her kids. If you can get that happening (Sonoran Desert High School principal, design team meeting, October 20, 2011).

The administration viewed the new student advisory model as a way to reengage teachers and to continue to build on some of the breakthroughs experienced in classrooms with student learning. The principal stated that the administration team hoped that the advisory would encourage an interpersonal sense of responsibility for student learning that would ultimately increase teacher affect.

We're hoping that this [student advisory] is going to open up for our teachers this sort of interpersonal sense of responsibility, that they'll start, that they will again remember why they came into teaching and it's because they want to work with kids and they want to make a difference and they want to be successful and all those kinds of things. So we're hoping the affect level will also increase. (Sonoran Desert High School principal, design team meeting, September 11, 2011)

Communication. When asked to respond to the statement, "I feel informed about the Move On When Ready model," the mean response for all respondents (M=3.21, SD=1.27) indicated that as a school, the administration and staff *neither agreed nor disagreed*. Further item analysis by school position revealed differences between administration and teachers. The mean administration response (M=1.67, SD=1.15) fell between *strongly agree* and *agree*, whereas the mean teacher response (M=3.64, SD=1.03) fell between *neither agree nor disagree* and *disagree,* where a response of 1 indicated *strongly agree* and a response of 5 indicated *strongly disagree* on a 5 point Likert scale. These findings suggest administrators felt informed about the MOWR model, but that teachers in general did not.

While there was evidence through interviews with teachers and conversations with staff that information about MOWR was communicated through staff meetings, the principal indicated during a district principal meeting that she recognized there were communication gaps with teachers and staff. She

243

said that when announcing to her faculty and staff that Sonoran Desert High School was going school-wide with MOWR, some teachers thought that it meant students would be leaving the school early and wouldn't be in career and technical education courses (district principal meeting, February 1, 2012). Following the first administration of the MOWR school survey in October 2011 the principal shared with me that she thought awareness of the MOWR model among faculty and staff might be low. She said, "I think you're going to find from your survey results that really the level of knowledge about this is going to be pretty surface. Because even though we've talked about it several times, it hasn't really been personal to a lot of the staff yet" (Sonoran Desert High School principal, design team meeting, October 20, 2011).

There is some evidence to suggest that the principal was starting to take steps to increase communication with faculty and staff about MOWR. During an interview with the principal, she spoke about a recent staff meeting where she reminded teachers about the MOWR model.

Yesterday we had our staff meeting when I announced the approval and support from the district for us to go school-wide. And we started from the very beginning again. "Remember when we talked about this two years ago, remember this pathways graphic, remember we looked at this, this is what we are doing, this is why we are doing it." And that will be an ongoing process of continuing to remind the teachers why we are doing

244

what we are doing, how it's about all students, that this is a pathway.

(Sonoran Desert High School principal interview, February 2, 2012)

With respect to external communication, school leadership made efforts to communicate about MOWR and ACT QualityCore with families and the larger community. A document review revealed that MOWR and ACT QualityCore were explicitly described in the principal's message posted on the Sonoran Desert High School web site. MOWR was described as an "initiative designed to raise academic achievement for ALL students to a college-ready level." (Sonoran Desert High School web site, document review, January 2012) Additionally, the MOWR legislation (HB2731) was cited on the school's web site and the options available to students were described.

Arizona students who demonstrate readiness for college through participation in board examination systems can earn a performance-based high school diploma, the Grand Canyon Diploma, as early as age 16. Once students qualify to earn a Grand Canyon Diploma, multiple options are open to them including remaining in high school to prepare for university entry; graduating early and enrolling in a full-time career and technical education program, and graduating early and enrolling full-time in a community college. (Sonoran Desert High School web site, document review, January 2012)

With regard to ACT QualityCore, the web site stated Sonoran Desert High School will implement the ACT Quality Core curriculum in the English, math,

science, and World History courses "to ensure that our students are learning a college-ready curriculum." The text then stated, "This curriculum will also contribute to our students' success on the ACT college entrance exam which is critical for college and university enrollment and scholarships. While the rigorous college-ready curriculum will be available for all students, the Grand Canyon Diploma pathway will be limited to 28 freshmen in our first year of implementation." (Sonoran Desert High School web site, document review, January 2012). The descriptions of MOWR and the ACT QualityCore curriculum on the school's web site made clear the options open to students who qualify for the Grand Canyon High School Diploma. The ACT QualityCore curriculum was described as ensuring students are "learning" a college career ready curriculum and the alignment with the ACT exam was clearly articulated.

In addition to the information made available through the web site, the administration held an information session for parents and students in summer 2011 to explain the MOWR initiative (Sonoran Desert High School principal, MOWR Learning Collaborative meeting, August 25, 2011). While efforts were made to communicate about MOWR externally, the principal felt that communication with families and the community could still improve. She said that she needs to increase communication with parents and the community, and indicated it would be a focus in the coming academic year as the school moved towards a whole-school MOWR model.

I have not done as strong of a job in terms of communicating with our

parents and community yet. And that needs to be increased. And so that

will be our focus this year with our new incoming freshman to make sure

everyone is aware in terms of what their understanding is in terms of

coming to [Sonoran Desert High School] as a MOWR school, as an

academic and career magnet. (Sonoran Desert High School principal

interview, February 2, 2012)

BES design and support. Sonoran Desert High School faced a variety of

challenges relative to the BES provider ACT QualityCore. Challenges included

quality of the professional development, ongoing support form ACT QualityCore,

and gaps in course offerings. The principal stated that the ACT QualityCore

professional development and ongoing support were less than optimal, which she

believed impacted teacher use of ACT QualityCore resources.

Professional development from ACT has been sketchy, so we have had to

make our own inroads in terms of PD [professional development]. We

don't feel, or I'll say I don't feel that we've gotten the support from ACT

that I would have expected to receive, especially for a school like Sonoran

Desert High School that has so heavily invested in ACT for several years,

including using their exams for Explore and Plan for three years in a row.

As a result, I don't think our teachers are taking advantage of the resources

that ACT could make available for them. And maybe part of that is

training and support here on the campus and some of it is I think not

247

getting the type of support and PD from ACT that we would have

expected. (Sonoran Desert High School principal interview, February 2,

2012)

In addition to the challenges related to professional development and

ongoing support, ACT is no longer developing a world history course or end-of-

course assessment, which left a gap in the requirements for the Grand Canyon

High School Diploma. There were also some concerns from administration about

the ACT QualityCore U.S. history course that was developed and used during the

2011-2012 academic year at Sonoran Desert High School. The principal said that

the school was still examining what options they might pursue to address the

world history course gap and that they would also need to investigate a possible

misalignment between the standards in the ACT QualityCore U.S. history course

and the ACT QualityCore end-of-course examination.

We are not sure what we'll use for a BES system for [world] history

because one has not been written by ACT . . .We are still looking at the

social studies curriculum from ACT through U.S. history. At least one

school that is involved [in MOWR] has indicated they think there is some

misalignment with the course curriculum and the end-of-course

assessment, so we'll have to look at that. (Sonoran Desert High School

principal interview, February 2, 2012)

While there were admitted challenges with ACT QualityCore, the

principal stood by her decision to adopt ACT QualityCore as the school's BES

248

provider. The principal explained that despite the issues Sonoran Desert High

School faced relative to ACT, she believed it was the right curriculum for her

school and that it had directly benefitted teachers and students.

> Despite some of the obstacles and some of the negative things about ACT,
>
> which I agree there are some. I think they jumped in, bit off more than
>
> they could chew and now they're really running hard to keep up with it, I
>
> still believe it's absolutely the right curriculum for us and our staff has
>
> benefited from it, and when our staff benefits, the students benefit.
>
> (Sonoran Desert High School principal, design team meeting, October 20,
>
> 2011).

The administration indicated that one of the positive aspects of the ACT

QualityCore curriculum was the professional development that occurred by way

of teachers developing curriculum modeled after the ACT QualityCore sample

provided by ACT for each subject area. The principal stated that the sample ACT

QualityCore units helped teachers to see the connection between rigor and

relevance, which led to greater student engagement in the classroom.

> But the thing about ACT that to me has just been a happy, unexpected
>
> kind of result is that the curriculum that ACT came up with, despite all of
>
> the bumps in the road with the ACT people, the curriculum that they came
>
> out with, the sample units, is good, it's really good. And you can have
>
> what could be considered rigorous, like AP is considered rigorous
>
> curriculum, but it's not engaging, it's not relevant, but it's rigorous. And

so the ACT Quality Core curriculum has been a professional development

activity in itself by helping our teachers understand the relationship

between rigor and relevance. And seeing the engagement that our students

have had as a result of that is huge. (Sonoran Desert High School

principal, design team meeting, October 20, 2011)

Sonoran Desert High School saw gains in student achievement that were

attributed to ACT QualityCore. During the August 2011 MOWR Learning

Collaborative meeting, the principal said that one of the school's junior English

teachers reported that for the first time, students were entering her classroom

prepared for junior level English. The principal said that the teacher believed this

to be a result of the students taking ACT QualityCore courses prior to taking her

course.

Our junior level English teacher sent an email to our sophomore English

teachers telling them that this is the first year she has felt the students

really were prepared to come in and write substantive essays that had not

only the competence, but also the confidence. And she saw this as a direct

result of the curriculum the ACT QualityCore curriculum that the

freshman and sophomore teachers had used last year. (Sonoran Desert

High School principal, MOWR Learning Collaborative meeting, August

25, 2011)

Understanding of the MOWR model. When asked to respond to the

survey item, "I understand the MOWR model," the mean response for

administrators (M=1.67, SD=1.15) fell between *strongly agree* and *agree*, which

was in contrast to the mean response for teachers (M=3.27, SD=1.01) that fell

closest to *neither agree nor disagree* on a five point Likert scale, where 1

indicated *strongly agree* and 5 indicated *strongly disagree*. The same pattern

emerged in analyzing the administrator and teacher response to the survey item, "I

understand how the MOWR model is supposed to work to improve student

learning." The mean response for administrators (M=1.33, SD=.58) fell between

strongly agree and *agree*, and the mean response for teachers (M=3.18, SD=.98)

fell closest to *neither agree nor disagree* on the same five point Likert scale.

These findings suggest that administrators understood the MOWR model,

including how the model is designed to improve student learning, but that

teachers were less clear or perhaps even uncertain.

Findings from Sonoran Desert High School site visit observations and

meetings indicated that administrators, teachers, and staff had varying levels of

understanding of MOWR. The principal described the state initiative as an effort

intended to increase college and career readiness, and that offered students

pathways if they could demonstrate proficiency in core content areas during their

first two years of high school.

It's a state initiative to increase college and career readiness for all

students by using a board examination of which in Arizona there are two

choices, Cambridge and ACT. Students have the option for multiple

pathways if they can demonstrate proficiency in the board examination

251

systems in the four core areas in their freshman and sophomore years.

(Sonoran Desert High School principal interview, February 2, 2012)

The two teachers interviewed described the MOWR model slightly differently and with less detail than the way in which it was described by the school principal. The first teacher emphasized that MOWR was an opportunity for students. She said, "I would describe it as an opportunity, a great opportunity, for students who maybe wouldn't otherwise get the chance to leave high school with more than just a high school diploma. I think it's a challenge for some, motivation for others, but I think it's a good option to have" (Sonoran Desert High School teacher A interview, January 26, 2012). The second teacher interviewed described MOWR as an alternative way to get to college, particularly for students who are ambitious. He said, "I think it's a good model. It gives an opportunity for students to have an alternative way of getting to the college, getting through their education. I think it is something that will help out those kids that are ambitious enough to do it. It will reward those that are willing to work for it" (Sonoran Desert High School teacher B interview, January 26, 2012).

Conversation with counselors suggested the counselors at Sonoran Desert High School might not fully understand the MOWR model. During an October 2011 design team meeting CFA asked a guidance counselor if she felt she and her colleagues had all the information that they needed relative to MOWR. She replied, stating that they "were still learning" (Sonoran Desert High School design team meeting, October 20, 2011). The counselor stated that they needed more

252

information and expressed concern over students graduating early and enrolling in community college.

> We're not 100 percent comfortable. We need some more information. I think I worry about okay, so if they do qualify and take that test, what's going to make sure they're going on and going to the community college, or doing what they need to do, furthering themselves, 'cause they're going to be so young. (Sonoran Desert High School design team meeting, October 20, 2011)

Findings from the qualitative data suggest that Sonoran Desert High School administration possibly understood or perceived the Grand Canyon High School Diploma as an option that academically excelling students would be best positioned to qualify for within a two-year period. The principal stated the students who could pass the end-of-course assessments in two years would be students who were on a path to the university.

> I guess the way I look at it, the kids that can take that end-of-course assessment in all four core subjects and pass it for two years running are kids who are really on the university track. This is a very rigorous test and those kids are going to be kids that we've tapped all along to continue to a university track, because they're going to be academically successful and gifted. (Sonoran Desert High School principal, design team meeting, October 20, 2011)

When talking about MOWR with the principal during a site visit in September

2011, CFA said that MOWR "isn't just for academic high flyers." The principal

said she agreed, but thought it would take time to see large numbers of students

qualifying.

> I agree with that philosophically, but I think right now and maybe down
>
> the road when our curriculum gets to the level that we want it to be, and
>
> that the teachers are as effective as we want them to be with this highly
>
> rigorous curriculum. But again, we're starting at a level where for most of
>
> our kids, well, you can see the results of the end-of-course assessment.
>
> And I expect those obviously to go up every year as we get better and
>
> better and the kids get more and more exposure to the ACT Quality Core,
>
> that's going to go up enough. But I think we're looking down the road
>
> two, three, four years before we see those kind of results. . . . And that's
>
> the goal obviously, is we want to have the majority of our kids being able
>
> to pass those exams and that's why we're doing this, is 'cause that's the
>
> goal. But I don't see that happening for several years. (Sonoran Desert
>
> High School principal, design team meeting, September 11, 2011)

The findings suggest that administration viewed MOWR as something that would

take time before students, other than those who were already academically strong,

could excel with respect to passing the end-of-course exams. It is unclear as to

whether or not the administration recognizes MOWR as a performance-based

model that spans the entire high school experience as opposed to being a two-year option for students who can essentially "pass it."

Value in the MOWR model. When asked to respond to the survey item, "I see value in the MOWR model over current practices" the mean response for administrators (M=1.00, SD=.001) and teachers (M=3.00, SD=.89) varied greatly on a five point Likert scale, where 1 indicated *strongly agree* and 5 indicated *strongly disagree*. The mean administrator response fell at *strongly agree* and the mean teacher response fell at *neither agree nor disagree*. This suggests that administrators clearly saw value in MOWR, whereas the teachers were less certain.

Similarly, when administrators and teachers responded to the item, "The MOWR model is worth keeping at my school," there was a difference in the mean response for administrators (M=1.67, SD=1.15) and teachers (M=2.91, SD=.94). The data showed the mean administrator response was between *strongly agree* and *agree,* and the mean teacher response was closest to *neither agree nor disagree* on a five point Likert scale, where 1 indicated *strongly agree* and 5 indicated *strongly disagree.* This suggests that administrators supported keep the MOWR model at Sonoran Desert High School, but that teachers may be indifferent or unsure as to whether or not the model should be retained.

When describing the reasons why Sonoran Desert High School implemented MOWR, the principal talked about the desire to "provide access for every student to a college and career readiness curriculum" (Sonoran Desert High

School principal interview, February 2, 2012). Analysis of transcripts from design team meetings and analysis from recorded interviews revealed that the principal often discussed the value of MOWR and the reason why the school implemented it in relation to student and family interest in the opportunity to earn a Grand Canyon High School Diploma, particularly for those students whose families may face economic struggles or who are undocumented immigrants. During an October 2011 design team meeting the principal talked about her surprise in the level of interest in MOWR from families and students at the information session she held prior to the school year, and her conclusion that it might be related to the option of earning a high school diploma in a shorter amount to time.

> That [family and student interest in MOWR and the Grand Canyon High School Diploma] came as a little bit of an epiphany for me, because I didn't think that that would be as interesting and vital to our parents and our students because I thought, why would anyone want to leave [Sonoran Desert High School]? When they finish their sophomore year, they're going to want to stay because of our CTE programs, because of our AP choices, because of all the things that we can give them at Sonoran Desert High School]. But then after thinking about it and talking with people, kind of chewing it over a little bit, we came to the conclusion because of the reality of our students, the parents are probably thinking, they may have to leave school at the end of their sophomore year. That might be the

way that life takes them, because either they've got to get work to help the

family out, or they may have to leave the state. And if they have a

diploma to take with them, that's really valuable. (Sonoran Desert High

School principal, design team meeting, October 20, 2011)

During the August 2011 MOWR Learning Collaborative meeting, the principal

shared with leaders of other Arizona MOWR schools her initial surprise in the

motivation and enthusiasm from parents for what she thought would be more of a

lukewarm response to the Grand Canyon High School Diploma and her

conclusion that the interest and value to the families in the Grand Canyon High

School Diploma might be related to the situation of students whom the school

serves. The principal stated that students might have to leave school early due to

other circumstances, and that because of this possibility, the option to have a

diploma as early as the end of the sophomore year could be attractive to students.

There is a very strong possibility at the end of the sophomore year that

these students may have to drop out of school because of circumstances

beyond their control, because the economics of their family have become

so dire that they have to step in and earn a living for their family because

their parents may be deported. They come home and their folks are not

there and they may have to leave the state as well. And so the option to

have a diploma at the end of the sophomore year at 16 is something that

they see as a more immediate and tangible option than perhaps I first

envisioned it, or we did in our early discussions. (Sonoran Desert High

School principal, MOWR Learning Collaborative meeting, August 25, 2011)

Findings suggest that administrators were not alone in seeing value of the MOWR model in connection to possible desires and interests of the specific student population served by the school. One of the teachers interviewed stated that MOWR became more attractive to the school because of the student population at Sonoran Desert High School, particularly those who are undocumented citizens.

MOWR has become more attractive to us because of our population of students who in two years may be going back to Mexico or may be going to Puerto Rico or Brazil or wherever they came from and they are not legal citizens of the United States. So I think that is what allows us to hold on to it more, it makes it more attractive to us and maybe next year instead of one cohort we'll have two. Who knows? (Sonoran Desert High School teacher A interview, January 26, 2012)

The two teachers interviewed indicated that they supported the MOWR model and thought that other teachers did as well. When asked if teachers support the model, one teacher said, "I think most of the teachers I talk to do. They are all contributing to ACT and how we are going to implement that" (Sonoran Desert High School teacher B interview, January 26, 2012). The second teacher interviewed indicated that teachers supported MOWR, but suggested that the support may stem from the fact that teachers didn't perceive that the

implementation of the model really impacted them in any way or required new change. The teacher said that the only thing that was really different for teachers as a result of implementing MOWR was offering the U.S. history course for freshman.

> For the most part I think the teachers are kinda like, "Okay. It's here. We can do it. We're not changing anything as far as the way we instruct. Our expectations of our students haven't changed." The only thing that has been different is we had to customize the U.S. history course to offer it to freshman, because they don't typically take that until they are sophomores. But our rigor has still been there. ACT Quality Core, we're in our second year of that." (Sonoran Desert High School teacher A interview, January 26, 2012)

Perceptions regarding full implementation of MOWR at Sonoran Desert High School. Administrators at Sonoran Desert High School don't anticipate large numbers of students will choose to graduate early with a Grand Canyon High School Diploma. The principal indicated that students will likely stay at Sonoran Desert High School for four years. During an interview the principal said, "At [Sonoran Desert High School] we believe that our students will stay with us for four years. We don't believe we will see a lot of students leave." Similarly, during a September 2011 design team meeting the principal explained that she does not foresee many students graduating early unless they are faced with circumstances beyond their control.

259

And to be honest, and again, I may be wrong, it wouldn't be the first time, but I really think that if any of them graduate early and take the diploma, it's because they've got to go back to Mexico, or they're leaving the state for one reason or another. I don't anticipate they're going to take the degree early and enroll at the community college. I think if they stay, they'll stay at [Sonoran Desert High School] because we can offer them the dual enrollment here for community colleges and they'll have already selected a CTE program that they're interested in. (Sonoran Desert High School principal, design team meeting, September 11, 2011)

Teachers seemed to support the belief that students would choose to stay at Sonoran Desert High School even if they qualify for the Grand Canyon High School Diploma. A teacher interviewed said, "I think we are going to have some juniors who are going to stay. I think they'll stay for the most part" (Sonoran Desert High School teacher A interview, January 26, 2012).

When asked what MOWR will look like once it is fully implemented, the principal talked about the course sequence. She said, "All students will be taking two years of social studies by the end of sophomore year plus a semester of economics." While there was some evidence that teachers perceived full implementation of MOWR to include a variety of options for students, there seemed to be lack of clarity as to what those options were. One of the teachers interviewed started to describe the options students might pursue who choose to stay enrolled at Sonoran Desert High School after qualifying for a Grand Canyon

High School Diploma, but was unsure if students could get college credit through dual enrollment or not, and spent time trying to work through various possible scenarios, asking if they made sense (Sonoran Desert High School interview, teacher A, January 26, 2012).

Research question 1.3. In order to answer the third research question, "As an intermediary, in what ways does CFA influence the implementation process at the local school level?" the following case study instruments were used: the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and a review of school documents. The transcripts from the MOWR Learning Collaborative meetings provided confirming and disconfirming evidence. Four trends emerged from the qualitative data analysis: providing direct assistance with the implementation of MOWR; acting as a facilitator and connector; communicating about MOWR at different levels; and monitoring implementation. These findings are discussed below within this section.

While CFA was actively engaged with Sonoran Desert High School in implementation during the course of this study, the NCEE Arizona engagement manager also played a critical role in influencing the implementation process that must be acknowledged as it is clearly evident in the analysis of qualitative data. In particular, NCEE provided direct assistance in facilitating the relationship between Sonoran Desert High School and ACT QualityCore as evidenced by electronic correspondence (document review, January 2012).

261

Direct assistance. Analysis of the qualitative data suggests that one of the ways CFA influenced the implementation process of MOWR at Sonoran Desert High School was by providing information about the MOWR model to the school, and in particular, being able to answer questions and clarify specific aspects of the overall model. At Sonoran Desert High School, the questions that CFA answered were frequently technical in nature.

Sonoran Desert High School administration had questions about the requirements for qualifying for a Grand Canyon High School Diploma. The principal was not sure if students needed to pass the end-of-course assessments in every course each year and sought information from CFA during a September 2011 design team meeting. CFA clarified that students did need to pass all of the assessments. In another example, a question arose about offering the half-credit economics course also required for the Grand Canyon High School diploma. The principal asked CFA to help her recall the requirements. She said, "Help me remember, we got an email about the econ requirement, and as long as they're in a full year of both freshman and sophomore level, we're okay with econ coming after that?" In collaboration with the NCEE Arizona engagement manager, CFA clarified that the economics course needed to be available to students in the first two years of school. This led to a larger conversation where the principal, the NCEE Arizona engagement manager, and CFA problem solved options for how this might work specifically at Sonoran Desert High School (Sonoran Desert High School principal, design team meeting, September 11, 2011)**.**

The document review revealed a number of electronic correspondences between the Sonoran Desert High School principal, the NCEE Arizona engagement manager, and CFA about a variety of issues or needs raised by the school principal in connection to MOWR. The issues identified ranged from asking about possible course substitutions to how the Grand Canyon High School Diploma will be viewed by universities (document review, January 2012).

Connector and facilitator. Data analysis suggests that CFA supported implementation at Sonoran Desert High School through its role as a connector and facilitator. The principal stated that the information CFA provided was helpful as were the conversations CFA facilitated with other schools.

> They are very helpful because they are a conduit of information and facilitators of conversations with other schools, and even with other states. I recently visited Kentucky, two schools over there that are involved in this. It is very helpful to visit other schools and just to know there are other schools following the same pathway. (Sonoran Desert High School principal interview, February 2, 2012)

Findings suggest that Sonoran Desert High School would like to see CFA facilitate communication with teaches across school sites. The principal said that it would be beneficial for CFA to facilitate conversations with teachers in other schools, which would provide a sense of collegiality and essentially a shared experience among teachers.

263

Facilitating some conversations with teachers who are doing the same thing in other schools would be very beneficial. There's some benefit just from that sense of collegiality of we're doing this someplace else, we're struggling with some of the same issues, but we are finding solutions and we are moving forward. (Sonoran Desert High School site visit, October 20, 2011)

Over the course of this study, CFA and NCEE helped other school sites in Arizona that were implementing ACT QualityCore connect to Sonoran Desert High School to learn about their experiences given they were a full year ahead in their use of ACT QualityCore (Sonoran Desert High School design team meeting, September 11, 2011) compared to other MOWR school sites. Data analysis suggests that it is important to the principal that Sonoran Desert High School also benefits from interactions with other schools. The principal said, "We're willing to help, but we would like to be in the other role if we can of receiving" (Sonoran Desert High School principal, design team meeting, October 20, 2011).

CFA also served as a facilitator during discussions that involved Sonoran Desert High School, other Arizona schools using ACT QualityCore, and NCEE regarding how to address the gap in the ACT QualityCore history offerings. Communications on this topic spanned the time period of this study. CFA and NCEE provided flexibility to the schools in identifying possible solutions to this particular issue that would be consistent with the MOWR model and state policy. This seemed to be appreciated by Sonoran Desert High School. During a

264

November 2011 MOWR Learning Collaborative meeting the principal said,

"Currently we are planning for the option of students taking AP world history at

the sophomore level, but we are examining other options and hoping for some

flexibility with what we might be able to propose other than having every student

in the cohort have to take AP world history as part of their BES system" (Sonoran

Desert High School principal, MOWR Learning Collaborative meeting,

November 14, 2011). CFA and NCEE explained that multiple options could be

explored, and in response the principal said, "It's nice to know there is some

discussion and flexibility" (Sonoran Desert High School principal, MOWR

Learning Collaborative meeting, November 14, 2011).

   Communicator. CFA appeared to assist with implementation of MOWR

at Sonoran Desert High School through communication at different levels and

with different audiences. The school design team meetings seemed to be helpful

to the administration in keeping them informed about MOWR. The principal said

that she gained information during design team meetings that was helpful and that

she otherwise might not get. She said, **"**Not that I want more meetings, but I

think I've gained a lot of information here [in design team meetings] that when it

trickles down you don't get the full story and the full picture" (Sonoran Desert

High School principal, design team meeting, October 20, 2011). The principal

requested that CFA continue to keep the school "informed about any changes that

are coming up within the policy" (Sonoran Desert High School principal, design

team meeting, October 20, 2011).

With regard to school-wide communication, several times during the course of the study CFA offered to provide assistance to the principal of Sonoran Desert High School in helping to increase communication around and understanding of MOWR by being available to meet with teachers and staff. During an October 2011 design team meeting, CFA offered to be available to meet with teachers and answer questions they might have about the MOWR model.

> Do you have any needs or would you like support around communication, increased understanding about the Excellence for All model and then Move On Ready? That it's not really just the Grand Canyon Diploma, it's really about this performance level and helping all kids reach it? We've done some things at other schools where we've just been available for teachers to come in and ask questions if they want, where it's been optional. (CFA researcher/participant, Sonoran Desert High School design team meeting, October 20, 2011)

The school administration suggested that CFA meet with the instructional cabinet following the sharing of the data from the initial MOWR school survey administered in October 2011. However, after the data were shared, the meeting was never arranged. The document review also showed electronic correspondence in which assistance was offered to help increase communication at the school (document review, January 2012). When interviewed, the principal indicated that she had not utilized CFA for broader communication yet, but said,

"I probably will as I start to hold parent meetings now that we are going school-wide . . . that might be a time when I ask for assistance for that purpose" (Sonoran Desert High School principal interview, February 2, 2012).

Neither teacher interviewed was able to describe the role of CFA in implementation at Sonoran Desert High School. However, the one comment that was made was related to communication, and in particular to listening to the teachers. One of the teachers said, "I can say that Amanda did listen and she asked some good questions. She took to heart everything we said when we had our general conversations" (Sonoran Desert High School teacher A interview, January 26, 2012).

Interviews with administration indicated that CFA was seen as potentially being able to influence implementation of MOWR through communication with the larger public. The district administrator interviewed spoke about the role CFA could continue to play in assisting schools with regard to communication with the public and clarifying questions or confusion about MOWR. She said, "Our schools are communicating out to their group of parents, but I think there is still probably a lot of confusion just with the community at large because the whole thought is wait a minute, a 10th grader graduating from high school? What exactly is happening?" (district administrator interview, February 2, 2012).

The principal described the need for CFA to continue to communicate about why schools are implementing MOWR in order to build and sustain broader

community support, and to directly combat cynicism that may exist relative to MOWR.

> There is a lot of cynicism in our society in many ways. I've heard reports from people saying well this [MOWR] is just a plot from the legislature to remove funding from public schools so they want all those kids to leave at 16 and then they don't have to pay for them anymore. I'm exaggerating just for the purposes of my point. I think that Amanda and [supervisor] are excellent front people in terms of getting that message out there consistently, but that they just have to continue to do that to make sure we offset the cynicism and that negative viewpoint with "No, this isn't about getting kids to leave at 16. This is about making sure every student has the opportunity for a college and career readiness curriculum." And if they can continue that message with all the different stakeholders they have access to I think that is a very positive thing. (Sonoran Desert High School principal interview, February 2, 2012)

Monitoring MOWR implementation. Through the interviews with administration and teachers, one of the common suggestions made for how CFA might help facilitate ongoing implementation was the idea of monitoring or auditing the school's implementation of MOWR. The district administrator interviewed suggested that at the end of the academic year, CFA could complete an audit of the MOWR implementation with schools that "informs what they are doing, where there are gaps, and where there are opportunities for increased

268

support" (district administrator interview, February 2, 2012). One of the teachers interviewed at Sonoran Desert High School also spoke CFA providing direct assistance in a similar way. The teacher said that CFA should make the school accountable for implementing MOWR and preparing students to have the option to move on.

> I guess we as teachers need to know the expectation. I know ACT QualityCore and Cambridge were curriculums or frameworks that we could use to be part of MOWR. But if the students are to be prepared to have that option to move on, I think that someone needs to not monitor . . . I hate that word, but just to be sure that it is happening . . . monitor I guess, or make sure that we are. Make us accountable for what we said we were doing if we were going to be a MOWR school." (Sonoran Desert High School teacher A interview, January 26, 2012).

Sonoran Desert High School case study summary. Sonoran Desert High School is a large, comprehensive high school located in an urban area within a major metropolitan city in Arizona. The school was originally established as a vocational education program, but was renamed and established as a comprehensive academic and career and technical education school serving students grades 9-12. In total, the school serves 1,446 students plus 1,047 who take part in career and technical education programs through a dual enrollment model. The school is part of a large urban high school district.

269

The school became involved in MOWR under the direct leadership of the principal, who has more than 20 years of experience in the district, including four years as school principal at Sonoran Desert High School. The school has a cohort of 32 students involved in the MOWR program. The school adopted ACT QualityCore prior to the MOWR initiative being in place in Arizona, making the decision to become a MOWR school a relatively easy step as they already were utilizing one of the approved BES providers.

School site observations, meetings, and interviews suggest that a critical factor in moving forward with establishing a MOWR cohort stemmed from student and parent interest in the Grand Canyon High School Diploma. While the principal and teachers made connections between MOWR and the district and school's mission to prepare students for success in college, career, and in life, what was most often discussed was the level of enthusiasm expressed by parents who attended an information session that the principal hosted prior to the start of the 2011-2012 academic year. The idea of providing "options" to students through the MOWR model was specifically mentioned by teachers and administrators (Sonoran Desert High School interviews, January and February 2012). With approval from the district, the principal decided to expand implementation of MOWR to a whole-school model at Sonoran Desert High School beginning fall 2012.

Even though Sonoran Desert High School was already implementing ACT QualityCore, implementation of MOWR required changes in course sequencing

and staffing in order to be consistent with what was required in state policy and State Board of Education rule for the purposes of students having the opportunity to qualify for a Grand Canyon High School Diploma within a two-year period. Specifically, a BES history course option needed to be offered as a grade 9 course when typically history was not offered at Sonoran Desert High School or anywhere else within the district until later in the high school experience. Other course changes needed to be made as well, such as offering a half-credit of economics and offering a second year of history during the first two years of high school. The school administration was aware of these requirements and was still exploring how they could make those course sequence changes for next year.

The school administration described Sonoran Desert High School's MOWR model as a whole-school model because all grade 9 students were taking ACT QualityCore courses in English, mathematics, and science. The only difference for the students who were officially in the MOWR cohort was they were the only grade 9 students taking ACT QualityCore U.S. history during the 2011-2012 academic year. Although the teachers interviewed did not articulate Sonoran Desert High School's implementation of MOWR as whole-school, both teachers did immediately associate the ACT QualityCore curriculum with the MOWR model (Sonoran Desert High School teacher interviews, January and February 2012)

Interestingly, the results from the MOWR school survey administered in January 2012 suggest little evidence from administrators or teachers to support

271

one way or the other that students were aware of the BES curriculum, that students were aware of the option to qualify for a Grand Canyon High School Diploma, or that instructional delivery changed as a result of the BES system. Results strongly indicated that for teachers, there was little evidence they participated in BES training. Results also indicated that not all students were enrolled in BES courses (MOWR post survey results, January 2012).

Post survey results from the MOWR school survey administered in January 2012 to administrators, teacher leaders, and grade 9 teachers at Sonoran Desert High School showed that for all respondents the mean response fell at or near *neither agree nor disagree* on the survey scales for School Capacity, Selection Process, BES Design and Support, MOWR Design, and Teaching Efficacy. When examining the responses by position, the mean response from administrators was more favorable than that of teachers on several scales, but especially for School Capacity, Selection Process, and MOWR Design. Responses were more favorable for all respondents on the District Context and Personal Efficacy scales, with a mean response for all respondents that fell near *agree* and *moderately agree* respectively.

School site observations, participation in meetings, and school interviews provided context for the results shown in the survey. The district was supportive in terms of allocating resources and approving changes in course sequencing and staffing for implementation of MOWR, but the day-to-day leadership for the MOWR model and its implementation stemmed from the principal. While the

272

administration saw the alignment between MOWR and the school's goals of preparing students to be college and career ready and the natural fit with the work the school had already invested in ACT and the ACT QualityCore curriculum (district principal meeting, February 1, 2012), interviews with teachers suggested that teachers primarily viewed MOWR as an option available to students who wanted an alternative path for graduating from high school, or who may need to graduate early because of circumstances outside of their control such as deportation (Sonoran Desert High School teacher interviews, January and February 2012).

Although the teachers were aware of the MOWR model at Sonoran Desert High School, it did not appear that they had an active role in its implementation other than through teaching the ACT QualityCore curriculum. The administration faced challenges relative to teacher engagement and support for new initiatives in the past, and indicated through design team meetings that teachers needed to be supported in their implementation of the ACT QualityCore curriculum and understanding of the MOWR model. One of the ways they hoped to do this was through the use of the PLC model that was in its seventh year at Sonoran Desert High School. However, this was the first year that PLC teams met weekly. Administrators were involved with PLC teams that they believed were not functioning well.

Sonoran Desert High School had a variety of student supports in place for students, including an advisory period that was new in the 2011-2012 academic

year that functioned as a homeroom and as a place where students could catch up on work or get help. The administration believed that it was largely the responsibility of parents and students to address academic deficiencies and it was up to the school to provide the related resources the students and families needed. The administration saw potential in utilizing student support structures such as advisory as a way to support teachers, with the hope that the connections made with students will help them to again "remember why they came into the teaching profession" (Agave High School principal, design team meeting, September 11, 2011). With regard to communication, the principal communicated about MOWR both internally and externally, but identified this as an area she would like to work on as the school moves toward a whole-school implementation of MOWR (Sonoran Desert High School principal interview, February 2, 2012).

The school faced several challenges in relation to the ACT QualityCore curriculum. While administration was pleased with the quality of the sample unit plans and the early results they saw in student academic achievement, the quality of the professional development and level of ongoing support did not meet the expectations of the principal (Sonoran Desert High School principal interview, February 2, 2012). Additionally, ACT QualityCore determined that it would no longer develop an ACT QualityCore course for world history, leaving Sonoran Desert High School with a gap to fill for history in order to meet the requirements of the MOWR policy.

With regard to the MOWR model, there appeared to be various levels of understanding among administrators and teachers. The MOWR survey results suggest that administrators understood the model, and that teachers were less certain. When talking about the MOWR model, the two teachers interviewed described it as an "opportunity" and an "option" to accelerate the high school experience (Sonoran Desert High School teacher interviews, January and February 2012). The Grand Canyon High School Diploma was often discussed as something that at least in the first few years of implementation of MOWR was likely to be earned within a two-year period by "academically successful and gifted" students given the rigor of the assessments (Sonoran Desert High School principal, design team meeting, October 2, 2011). MOWR seemed to be viewed as a two-year program and there was little, if any, discussion about the performance-based aspect of the model. Administrators and teachers anticipated that students who qualify for the Grand Canyon High School Diploma will likely stay at the high school, unless they are forced to graduate due to economic hardships faced by families that may require them to enter the workforce, or because they may need to leave the state or country.

With regard to CFA's role in implementation of MOWR at Sonoran Desert High School, there was evidence that CFA provided direct assistance, served as a connector and facilitator, played a role relative to communication about MOWR, and could serve as monitor of the actual implementation process. Most of the direct assistance CFA provided was technical in nature and related to

275

questions about the MOWR model and related course offerings. Though not discussed often, the administration seemed to see CFA as a connector to other schools. While CFA had some engagement with ACT QualityCore, the NCEE Arizona engagement manager provided most of the facilitation between the high school and ACT QualityCore. However, CFA was involved in the conversations and served as a convener. Both the school principal and district administrator interviewed indicated that CFA played an important role in communicating about the purpose of MOWR with the larger public, and that it was important that this continue in order to increase understanding and offset negative viewpoints.

Cross-Case Analysis

This section presents the cross-case results from the two case studies. The analytic technique of constructing partially ordered meta-matrices was employed in order to invite and facilitate comparison across the two cases, Agave High School and Sonoran Desert High School (Miles & Huberman, 1994). Results were synthesized and key themes emerged. A co-construction perspective (Datnow, Hubbard, & Mehan, 2002) was utilized as the lens for analysis, with the rationale being that by examining system-wide activity and, in particular, the interactions across contextual levels (Datnow, 2006; Datnow, Hubbard, & Mehan, 2002) it is possible to better understand how the implementation process unfolds. By applying this to the cross-case analysis, one can look for patterns that may explain what seem to promote or hinder implementation of MOWR at the local level across multiple school sites, potentially informing CFA's future work which

is really centered on systems change through MOWR, not just individual school change. This section is organized around the three research questions that guide this study. Similar results are discussed as well as contrasting or rival results that could be useful in examining what promotes or hinders implementation of MOWR at the local school level in Arizona.

Research question 1.1. In order to answer research question1.1, which is "To what extent and in what ways is MOWR being implemented at the local school level?" the following cross-case analysis was conducted:

1. Extent of MOWR implementation across the two cases

2. Ways in which MOWR was implemented across the two cases

As described within the conceptual framework for this study and illustrated within Figure 2 (see Chapter 3), the MOWR model is a coherent design intended to be implemented as a system. The model includes: internationally benchmarked courses aligned to national standards intended for all students (grades 9 and 10); a course design captured in a detailed syllabus; high quality exams derived from the curriculum using multiple assessment methods; quality teacher training matched to the course syllabi (professional development); student academic supports for students who do not pass the assessments; a performance-based diploma aligned to minimum college-readiness standards; and availability of multiple pathways to postsecondary education within and beyond high school. Each of these elements are provided for the in the "Move On When Ready" law pursuant to Arizona Revised Statutes Title 15, Chapter 7, Article 6.

Extent of MOWR implementation across the two cases. An independent-

samples t test was conducted on the post survey results for all respondents at

Agave High School (school site B-2) and Sonoran Desert High School (school

site C-1) to evaluate the difference of the means on the six items in the MOWR

school survey that specifically addressed extent of MOWR implementation. The

results are presented in Table 29. The results show there was a significant

difference in the mean scores for all respondents at Agave High School and at

Sonoran Desert High School on each of the items related to extent of MOWR and

BES implementation.

Table 29

Comparison of Post-Test Survey Results for School Site B-2 and C-1 on Extent of Implementation Item Analysis

Item	School Site	n	Mean	SD	T	df	P value
The Board Examination System (Cambridge or ACT QualityCore) course syllabus is consistently used	Site B-2	10	1.70 *(agree)*	.82	-4.76	27	.001
	Site C-1	19	3.16 *(neither agree nor disagree)*	.76			
Students are aware of the Board Examination System curriculum	Site B-2	10	1.90 *(agree)*	.74	-4.02	26	.001
	Site C-1	18	3.22 *(neither agree nor disagree)*	.88			
Students are aware of the option to qualify for a Grand Canyon High School Diploma	Site B-2	10	2.20 *(agree)*	.63	-3.40	27	.002
	Site C-1	19	3.16 *(neither agree nor disagree)*	.76			
All students in Grade 9 are enrolled in Board Examination System courses in my department	Site B-2	10	1.70 *(agree)*	.82	-4.70	25	.001
	Site C-1	17	3.47 *(neither agree nor disagree/ disagree)*	1.01			
I have participated in Board Examination System training	Site B-2	10	2.30 *(agree)*	1.25	-3.11	27	.004
	Site C-1	19	3.74 *(disagree)*	1.15			
My instructional delivery has changed by using the Board Examination System	Site B-2	9	2.11 *(agree)*	.928	-3.27	26	.003
	Site C-1	19	3.11 *(neither agree nor disagree)*	.66			

Note. Items were 5-point Likert scale questions. Items ranged from *1 = strongly agree* to *5 = strongly disagree*.

General findings.

1. Both school sites were implementing, at least to some extent, the MOWR model as presented in state policy.

2. There was greater use of the BES course syllabus, teacher participation in BES training, and change in instructional delivery at Agave High School than at Sonoran Desert High School.

3. At Agave High School all grade 9 students were enrolled in BES courses. Some grade 9 students were enrolled in BES courses at Sonoran Desert High School, but what percentage was not clear.

4. More students were aware of the BES curriculum and were familiar with the option available to them to qualify for a Grand Canyon High School Diploma at Agave High School than at Sonoran Desert High School.

5. For each case, there was a consistent pattern with regard to reported perceptions related to extent of implementation. At Agave High School, the mean response for all respondents for all items was consistently near *agree*. At Sonoran Desert High School the mean response for all respondents for all items was consistently near *neither agree nor disagree*, with the exception of one item, participation in BES training, for which the mean response was near *disagree*.

6. For both sites, the aspect of the MOWR model implemented the least was BES training for teachers.

Summary. Although there was evidence that both schools were implementing MOWR, there was a significant difference between the schools with regard to extent of implementation. This means that there was variation in extent of implementation at each school site. Agave High School was implementing MOWR to a greater extent than Sonoran Desert High School across all MOWR components. Reported levels of extent of implementation were relatively consistent within each school site for core components of the MOWR model. This means that extent of implementation within each school did not seem to vary across the core components of the MOWR model.

Ways in which MOWR is being implemented across the two cases. Figure 4 displays the data from the individual cases according to the ways in which MOWR is implemented at each school site by MOWR element. The data are displayed in the form of a word table. The results show there are differences in the way in which MOWR was implemented in each school.

MOWR Element	Characteristics of MOWR Implementation at the School Level	
	School Site B-2	School Site C-1
Implementation Approach (Whole-School or Partial)	• Whole-school model • Inclusive of all students • All students taking end-of-course BES exams	• Partial model (cohort) [transitioning next year to whole-school] • Inclusive of all students • All students taking end-of-course BES exams
BES Provider	• Cambridge International Examinations	• ACT QualityCore
Grand Canyon High School Diploma	• Integrated part of the high school program of study (a tool for teachers and a credential encouraged for all students) • Available to students over a four-year period (perceived) • Students who don't qualify over a two-year period can continue to qualify	• Alternative pathway to high school graduation and college • Option available to students at the end of a two-year period (perceived) • No discussion of next steps for students who don't qualify over a two-year period
Student Academic Supports	• Multiple student supports available • Student supports in direct support of MOWR (performance-based, designed with MOWR in mind; designed for reteach/enrich)	• Multiple student supports available • Student supports are offered in parallel with MOWR (designed for reteach/enrich; not necessarily designed with MOWR in mind)
Multiple Pathways (How the school plans to fully implement MOWR)	• University courses while in high school (priority path) • Community college path (least preferred path) • Continuing to work towards qualification of the Grand Canyon High School Diploma	• Community college path • Options already available at the school (CTE, AP)
Performance-Based/Mastery Approach	• Grand Canyon High School Diploma viewed as a performance-based diploma • Experimenting with different types of course offerings and schedules to create personalized learning experiences focused on mastery of Cambridge	• Grand Canyon High School Diploma viewed as a performance-based diploma

Figure 4. Characteristics of MOWR implementation in school sites B-2 and C-1.

General findings.

1. Agave High School was implementing MOWR as a whole-school model. Sonoran Desert High School was implementing MOWR as a cohort model.

2. Both implementation approaches were inclusive of all students, meaning there were no selection or admission criteria for student participation.

3. The schools were utilizing different BES providers.

4. The Grand Canyon High School Diploma was viewed as a performance-based diploma at both schools. At Agave High School it was described as a diploma available to students over a two to four-year period. At Sonoran Desert High School it was described as a diploma available at the end of two years of high school that provides an alternative pathway to graduation.

5. The Grand Canyon High School Diploma was integrated into the program of study at Agave High School. It was offered as an additional option at Sonoran Desert High School.

6. Both schools offered a variety of student academic supports. The academic student supports at Agave High School were closely aligned with MOWR, whereas at Sonoran Desert High School they may or may not have directly supported MOWR.

283

7. Both schools planned to offer multiple pathways to students who qualify for the Grand Canyon High School Diploma. The pathway options vary in terms of what will be offered and what is prioritized.

8. Agave High School was extending the performance-based/mastery model of MOWR beyond just offering the performance-based Grand Canyon High School Diploma.

Summary. The cross-case analysis of the ways in which MOWR is implemented suggests that Agave High School was implementing the MOWR model as a systems approach in contrast to Sonoran Desert High School which was implementing MOWR as a programmatic approach. Although the implementation approach varied with respect to a whole-school model or partial model, both were inclusive of all students. This means that even though Sonoran Desert High School had a smaller group of students participating in MOWR, all students were able to participate should they choose to do so. The findings suggest there was flexibility with regard to how MOWR was implemented at the local school site and even flexibility once the model was initially implemented, as evidenced by Sonoran Desert High School's intent to transition to a whole-school strategy in the next academic year. The findings from this cross-case analysis coupled with the cross-case analysis of extent of implementation suggest a possible trend between a systems type of MOWR approach and greater extent of

implementation, and a programmatic approach to MOWR and a lesser extent of implementation.

Research question 1.2. In order to answer research question 1.2, which is, "What are the factors that appear to enhance or impede implementation of MOWR at the local school level?" the following cross-case analysis was conducted:

1. Comparison of school characteristics across the two cases

2. Comparison of correlations of scales from the MOWR school survey across the two cases

3. Comparison across the two cases utilizing a co-construction approach to examine how contextual levels shape implementation of MOWR at the school level

Comparison of school characteristics across the two cases. One of the most important dimensions of the co-construction approach is the idea of a relational sense of content, meaning that people's actions cannot be understood apart from the setting in which the actions are located, and in turn, the setting cannot be understood without understanding the actions of the people within it (Datnow, 2006). For this reason, the school characteristics for each school site are presented and examined. Table 30 compares the student and teacher characteristics of the two schools. The results show there are differences in the student and teacher population.

285

Table 30

Student and Teacher Characteristics of School Sites B-2 and C-1, 2010-2011

Characteristic	School Site B-2	School Site C-1
Student Race		
Asian	0%	0%
African American	14%	2%
Hispanic	74%	93%
Native American	0%	0%
White	10%	3%
Multi-Racial	0%	0%
Core Academic Teacher Education		
Bachelors	37%	22%
Masters	63%	77%
Doctorate	0%	2%
Core Academic Teacher Highly Qualified Status		
Not Highly Qualified	5%	0%
Highly Qualified	95%	100%
Core Academic Teacher Years of Experience (Total)		
0-3	32%	2%
4-6	21%	15%
7-10	32%	15%
10 or more	16%	68%
Core Academic Teacher Years at Current School		
0-3	100%	12%
4-6	0%	47%
7-10	0%	20%
10 or more	0%	22%

Note. From Arizona Department of Education School Fast Fact Sheets for the School Year 2010-2011.

Table 31 compares the high school characteristics of the two schools. The results show there are differences in nearly all the high school characteristics, with the exception of the school locale and the fact that both could be described as schools of choice.

Table 31

High School Characteristics of School Sites B-2 and C-1, 2010-2011

School	School Type	School Locale	Grade Span	Total Enrollment	Title I Status	Met AYP
Site B-2	Charter	City: Large	Grades K-9	674	Title 1 School	No
Site C-1	District (Magnet)	City: Large	Grades 9-12	1,532	Title 1 School, School-Wide	Yes

Note. From Common Core of Data, Public School Data 2009-2010, National Center for Education Statistics. School sites B-1 and B-2 are expanding through grades 12.

General findings.

1. Both schools were located within a large city, were designated as Title I (although only Sonoran Desert High School was designated as school-wide Title I), and were schools of choice.

2. The majority of students served at both schools were Latino. Agave High School's student population was slightly more diverse than that of Sonoran Desert High School.

3. When compared to Agave High School, teachers at Sonoran Desert High School had more advanced degrees, were all highly qualified,

287

had significant teaching experiencing (69% have 10 years of more experience), and were veteran teachers of the school site.

4. The majority of teachers at Agave High School had less than six years teaching experience and all were new to the school.

5. Sonoran Desert High School served many more students than did Agave High School, and was a grade 9-12 high school. In comparison, Agave High School served students K-9.

6. Agave High School did meet AYP, whereas Sonoran Desert High school did not.

Summary. The cross-case analysis of the school characteristics across the two school sites suggests that there are similarities in terms of the demographics of the students served, but stark differences in numbers of students served, academic achievement, and characteristics of teachers.

Comparison of correlations of scales from the MOWR school survey across the two cases. Table 32 compares the relationship between the MOWR and BES Implementation Scale for each school site with the survey scales related to constructs identified in the research literature that can enhance or impede implementation of school reforms. The results show there are some patterns across the two school sites.

Table 32

MOWR and BES Implementation Scale Correlations for School Sites B-2 and C-1

School	District Context	School Capacity	Selection Process	BES Design and Support	MOWR Design	Personal Efficacy	Teaching Efficacy
Site B-2	.75*	.92**	.68*	.68*	.74*	-.28	-.41
Site C-1	.54*	.56**	.44	.76**	.76**	.16	-.11

Note. N=10.
* p < .05. ** p < .01.

> *General findings.*
>
> 1. For both Agave High School and Sonoran Desert High School, results showed that correlations were statistically significant between the MOWR and BES Implementation scale and the following scales: District Context, School Capacity, BES Design and Support, and MOWR Design.
>
> 2. A strong relationship appeared to exist at both sites between the MOWR and BES Implementation scale and the School Capacity scale.
>
> 3. At Agave High School correlations were statistically significant between the MOWR and BES Implementation scale and the Selection Process scale.
>
> 4. At Sonoran Desert High School correlations were statistically significant between the MOWR and BES Implementation scale and the BES Design and Support scale.

289

5. No relationship appeared to exist at either site between the MOWR and BES Implementation scale and the Personal Efficacy or Teaching Efficacy scales.

Summary. The cross-case analysis of the relationship between the MOWR and BES Implementation scale and scales related to constructs shown to promote or hinder implementation suggests a relationship may exist between implementation of MOWR and the following factors: district context, school capacity, BES design and support, and the MOWR model itself. This is supported by the research literature on implementation of education reform and school change. The research literature also suggests that teacher efficacy has been found to impact implementation of reform and educational change (Berends, Bodilly, & Kirby, 2002; Fullan, 2007; Philippou, 2010). The results of this cross-case analysis do not seem to support the research literature on teacher efficacy, as no relationship was found in either school site between MOWR implementation and teaching efficacy or personal efficacy.

Ways in which contextual levels shape implementation of MOWR at the school level. Early research on school reform tended to focus on school level issues or implementation barriers (Honig, 2006), and in doing so, missed the ways in which contexts may interact to enable implementation (Datnow, 2006). Researchers have found the co-construction perspective to be useful for examining the dynamics involved in the implementation of large-scale change as this approach enables one to look at how the interconnections between actors and

290

the larger political and social sphere shape implementation (Datnow, Lasky, Stringfield, & Teddlie, 2006). For this reason, the contextual levels engaged in implementation of MOWR are analyzed utilizing a co-construction lens to examine where linkages or interactions occur that may influence implementation of MOWR in school sites. The cross-case analysis allows the possibility of identifying patterns or trends across schools. Figure 5 displays the data from the individual cases according to the ways in which contextual levels interact and shape implementation of MOWR at each school site. The data are displayed in the form of a word table. The results show there are similarities and differences in the ways in which contextual levels interact and influence implementation of MOWR.

Contextual Level	Contextual Level Influence on MOWR Implementation	
	School Site B-2	School Site C-1
State Policy/MOWR Design	• Coherent design • Choice of BES Provider • Flexibility in implementation approach (whole-school or partial) • How MOWR is understood	• Choice of BES provider • Flexibility in implementation approach (whole-school or partial) • How MOWR is understood • Course sequencing
BES Provider	• Perceived quality of BES • Challenges with gaining access to and receiving materials/resources	• Perceived quality of BES • Gaps in BES course offerings • Challenges with PD and ongoing assistance
District	• Driver of MOWR adoption • Driver of MOWR implementation • Actively engaged with the high school in implementation of MOWR • Provided resources in support of implementation (monetary, time) • Aligned policies and practices at the district and school level to support MOWR implementation	• Supportive of MOWR adoption • Supportive of MOWR implementation • Passively engaged with the high school in implementation of MOWR • Provided resources in support of implementation (monetary, guidance upon request)
School	• School site leadership facilitates MOWR implementation • Did not involve teachers in decision to adopt MOWR or in choice of BES provider • MOWR reform model matches with interests and goals of school • Systemic structural supports (teacher collaboration time, PD) • Teacher agency (teachers make decisions about implementation of MOWR) • Extensive teacher collaboration around BES curriculum • Administration understand MOWR model • Teachers understand MOWR model • Engaged with other MOWR schools	• Principal is driver of MOWR adoption • Principal is driver of MOWR implementation • Principal advocates for MOWR to district • School site leadership facilitates MOWR implementation • Did not involve teachers in decision to adopt MOWR or in choice of BES provider • MOWR reform model matches with interests and goals of school • Systemic structural supports (teacher collaboration time, PD) • Lack of teacher agency (teachers do not make decisions about implementation of MOWR) • Limited teacher collaboration

			• around BES curriculum
			• Administration understand MOWR model
			• Teachers do not understand MOWR model
			• Engaged with other MOWR schools
Other	• University partner influences implementation (university course offerings, resources in form of student and teacher supports) • Policy concerns • Concerns about public misperception of MOWR • Alignment of Common Core with BES		• Student and family interest impacts implementation (interest in Grand Canyon High School Diploma) • Concerns about public misperception of MOWR • Alignment of Common Core with BES

Figure 5. Ways in which contextual levels interact and influence implementation of MOWR for school sites B-2 and C-1.

General findings.

1. Commonalities with regard to how the state policy influenced MOWR implementation at the school level included choice in BES provider, and flexibility of the MOWR implementation approach, and how the MOWR model was understood.

2. Both school sites perceived the BES utilized by their school site to be of high quality. Both schools faced challenges with provider support but Sonoran Desert High School faced greater challenges with BES provider professional development and gaps in BES course offerings.

3. In both sites, the district provided resources to facilitate implementation of MOWR.

293

4. At Agave High School the district was the driver of the decision to adopt MOWR and the driver of its implementation. The district assisted in aligning policies and practices at the district and school level to facilitate implementation. At Sonoran Desert High School the district was engaged in MOWR, but passively.

5. Both schools had systemic structural supports in place such as teacher collaboration time and teacher professional development.

6. Neither school involved teachers in the decision to adopt MOWR or in the selection of the BES.

7. Teacher agency in shaping implementation of MOWR was evident only at Agave High School.

8. The principal at Sonoran Desert High School advocated for MOWR with the district. At Agave High School the school site administration regularly worked with the district in implementation of MOWR.

9. There was a match in both schools between their interests and goals and the MOWR model.

10. Both schools were concerned about public misperceptions of MOWR potentially influencing or undermining their implementation of MOWR at the school level.

11. Student and family interest in the Grand Canyon High School Diploma influenced Sonoran Desert High School's implementation of MOWR.

12. Agave High School's plans for full implementation of MOWR and resources that were available to the school, such as student academic supports, were influenced by its partnership with a university.

13. Both schools saw alignment with MOWR and the Common Core State Standards.

Summary. The cross-case analysis of the contextual levels engaged in implementation of MOWR suggests there are connections across contexts and levels that influence implementation of MOWR. The cross-case analysis of MOWR as a system-wide activity suggests there may be some common linkages across contexts that promote implementation of MOWR at the local level. These include: flexibility in policy design that allows for different approaches in implementation at the school level; choice in the BES provider and a perception that the BES is high quality by administration and teachers; leadership for the initial adoption and ongoing implementation of MOWR; district support through allocation of resources at the school level; systemic structural supports; and match of the MOWR reform with the school's interests and goals. Linkages that appear to further enhance implementation of MOWR that were only present at Agave High School, the school with the highest reported extent of implementation, were:

295

close ties between the district and school in the implementation of MOWR; teacher agency; teacher collaboration in support of BES implementation; and alignment of policies and practices with the MOWR model at the district and school level.

Research question 1.3. In order to answer research question 1.3, "As an intermediary, to what extent and in what ways does CFA influence the implementation process of MOWR at the local school site?" the following cross-case analysis will be conducted:

1. Comparison across the two cases to examine ways in which CFA interacts across systems and with actors to influence the MOWR implementation process

Ways in which CFA interacts across systems and with actors to influence the MOWR implementation process. Within this study, CFA was situated at the center of the system-wide MOWR implementation activity. The lens of co-construction was applied to analyze the ways in which CFA interacted across systems and with actors involved in the system-wide activity to influence the implementation of MOWR at the school level. Figure 6 displays the data from the individual cases according to the ways in which CFA interacts with and influenced the contextual levels at each school site. The data are displayed in the form of a word table. The results show the way in which CFA engaged and influenced MOWR across the system was similar across the schools.

296

Contextual Level	Influence of CFA	
	School Site B-2	School Site C-1
State Policy/MOWR Design	• Interprets the MOWR policy for district and school • Acts as the "keeper" of the policy – fidelity of implementation • Determines which aspects of MOWR to emphasize	• Interprets the MOWR policy for district and school • Acts as the "keeper" of the policy – fidelity of implementation • Determines which aspects of MOWR to emphasize
BES Provider	• Facilitator between BES provider, schools and NCEE	• Engaged in conversations about BES provider with NCEE and school
District	• Creates and facilitates connections across MOWR schools and their districts • Clarifies MOWR model for the district • Provides direct assistance (information, problem-solving)	• Creates and facilitates connections across MOWR schools and their districts • Clarifies MOWR model for the district
School	• Creates and facilitates multi-directional connections across multiple MOWR schools (sharing of knowledge, shared experiences, reflective practice) • Clarifies MOWR model for the school • Provides direct assistance (information, problem-solving) • Monitors implementation at school level • Supports some flexibility in implementation	• Creates and facilitates multi-directional connections across multiple MOWR schools (sharing of knowledge, shared experiences, reflective practice) • Clarifies MOWR model for the school • Provides direct assistance (information, problem-solving) • Monitors implementation at school level • Supports some flexibility in implementation
Other	• Key communicator of MOWR at a state level (general public) • Key link with policymakers • Key link with NCEE	• Key communicator of MOWR at a state level (general public) • Key link with NCEE

Figure 6. Ways in which CFA interacts with contextual levels to influence the

MOWR implementation process for school sites B-2 and C-1.

General findings.

1. CFA was consistent in its actions across systems within the two
   school sites, with the exception of Sonoran Desert High School
   where CFA was engaged, but was not the primary facilitator with
   the BES provider. (In this instance that role was filled by NCEE).

2. CFA was a conduit of information at multiple levels.

3. CFA was a mediating link between levels and across schools.

4. CFA provided direct assistance to districts and schools.

Summary. The cross-case analysis of the ways in which CFA interacted
across systems and with various actors involved in the system-wide activity of
MOWR to influence the implementation at the school level suggests CFA served
a variety of roles in the implementation of MOWR. One of these roles was that of
a mediating link between levels and across schools. The findings suggest that
CFA was a mediating link in several ways: between the MOWR policy and
district and schools; between how MOWR was communicated at the school level
and at the larger statewide level; between the BES provider, schools, and NCEE;
between schools and districts; between schools and NCEE; between schools and
policymakers; and across schools. Consistent with the research literature on
educational change and intermediary organizations, these results indicate that
CFA can play an important role functioning as a boundary broker in the
implementation of state policy such as MOWR as the policy travels across
multiple communities (Coburn & Stein, 2006).

Conclusion

This chapter presented the results from the quantitative data analysis from each of the five cases. Through analysis of the descriptive statistics, two school sites were identified based on the mean scale scores for extent of implementation on the pre and post survey results that reflected the two extremes of implementation (high and low) out of the total of five cases in the study. The two case studies were shared separately. Each case study provided a brief description of the school and the findings from the multiple sources of data collected for each school. The narrative structure of each case study was grounded in the three research questions and guided by the trends and patterns that emerged from the quantitative data from the school survey. The trends and patterns were then further described and understood through the qualitative data presented from the MOWR school level design team observations, school site visit observations, teacher and administrator interviews, and review of site documents. The chapter closes with a cross-case analysis of the two case studies. Chapter 6 presents a discussion of the findings from the study, a summary of the results, and implications for future policy, research, and practice.

Chapter 6

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

This chapter begins with a brief summary of the study and is followed by

the presentation of conclusions drawn from the findings and results of the data

analysis. Within the discussion section, ideas and possibilities are explored that

emerged from the study, but extend beyond the guiding research questions.

Finally, implications for future research and policy are presented, as are

recommendations for future practice.

Summary

The purpose of this mixed methods action research study was to facilitate

implementation of the MOWR high school reform model in Arizona school sites

and to understand how the implementation process unfolds. The hope was that

knowledge gained through the study would be used by CFA, a nonprofit

organization working directly with schools and policymakers, to inform future

cycles of planning and implementation work with schools, and to improve the

MOWR policy as its application expands to other schools across Arizona and in

other states. The overarching question that guided this study was: What promotes

or hinders the implementation of MOWR at the local level in multiple school sites

across Arizona? The innovation in this study was CFA's active and intentional

role as an intermediary organization operating between Arizona's policymakers

and Arizona schools that were actually implementing the MOWR policy. Taking

into account the research literature on educational change and implementation co-

construction theory, CFA developed and employed an overall plan and design of actions to facilitate adoption, implementation, and use of the MOWR reform design over the course of this study (Hall & Hord, 1987). The components of this "game plan" included: (1) developing supportive organizational arrangements; (2) training; (3) consultation and reinforcement; and (4) monitoring and evaluation (Hall & Hord, 1987).

The study was an explanatory nonexperimental multiple case study involving five school sites. A qualitative and quantitative mixed method design grounded in participatory action research was employed for the purpose of complementarity (Greene & Caracelli, 1997). Participants included five school sites, CFA, a local philanthropic organization, and a national partner. Data collection consisted of surveys, interviews, observations, focus groups, and a document review. Data were analyzed at intervals throughout the study and utilized for formative and summative purposes. A within-case and cross-case analysis was conducted.

The findings from the study suggest that the MOWR policy was implementable in each of the five school sites included in the study. However, how the education reform policy was implemented in each school site appeared to vary. A number of factors seemed to influence the actual implementation process including the design and understanding of the reform, selection process, district context and school characteristics, and school capacity to undertake the reform. The findings from the cross-case analysis suggest that CFA influenced the

301

implementation process in the school sites as an intermediary organization. It

appears that this primarily took place by providing direct assistance to the

schools, creating opportunities for collaboration and communication across the

multiple school sites implementing the same education reform policy, and serving

as a connector to other organizations, policymakers, and the larger public.

Conclusions

This study examined not simply what works, but the more critical

implementation question of what is implementable and what works for whom,

where, when, and why (Honig, 2006). The conclusions drawn from the findings

of the study are presented within this section. They are presented according to the

three research questions that guided the study.

Research question 1.1: To what extent and in what ways is MOWR

being implemented at the local school level? The findings from the study

support two conclusions in relation to research question 1.1.

The MOWR policy is implementable within diverse Arizona schools.

The first conclusion is that the MOWR policy is implementable within diverse

Arizona schools. This is supported by the findings that showed each of the five

schools in the study fell within a range on the MOWR and BES implementation

scale that indicated implementation was in fact taking place. This conclusion is

further supported by the findings from the within-case and cross-case analysis

which indicated the schools were implementing MOWR and that the schools

themselves varied in terms of context and characteristics.

The extent of implementation of MOWR varies across schools. The second conclusion in relation to research question 1.1 is the extent of implementation of MOWR varies across schools. Consistent with the research literature on education reform implementation and educational change, the extent to which MOWR was implemented within the study varied significantly by school site, as did the ways in which it was implemented. Within-case and cross-case analysis for the two school sites that emerged on the extreme ends of implementation (high and low) revealed that on the high end of implementation, MOWR was implemented with a systems approach as a whole-school reform model. On the low end of implementation, MOWR was implemented with a programmatic approach as a cohort or partial-school model. Both approaches were inclusive of all students, with no admission or selection criterion utilized at either school site.

Research question 1.2: What are the factors that appear to enhance or impede implementation of MOWR at the local school level? Strongly supported by the research literature, results suggest that a number of factors seem to influence the actual MOWR implementation process. Specifically, district context, school capacity, MOWR design, and BES design and support seemed to enhance or impede implementation of MOWR across the school sites in the study. The findings from the study support several conclusions in relation to research question 1.2. These conclusions are presented below.

District support influences the implementation of MOWR at the local school level. From the findings of this study, the conclusion can be drawn that district support influences the implementation of MOWR at the local school level. This is supported by the research literature on education policy and reform implementation that identifies districts as important midlevel policy actors in the shaping of implementation of reform efforts (Datnow, 2006; Datnow & Stringfield, 2000; Supovitz & Weinbaum, 2008). Specifically, the findings from this study suggest that districts provided support in the implementation of MOWR in the form of funding, allowing schools to make structural changes such as resequencing course offerings, providing professional development, and engaging with the schools in the actual problem solving related to implementing a new reform model. This is consistent with the research literature that indicates the most important types of supports that a district can provide in implementation of a reform include funding; structural changes; reform-specific staff support; effort to build reform expertise at the school level; monitoring of the reform use at the school level; and providing for flexibility in allowing schools to rethink the adoption of new curriculum, instructional practices, and the related professional development (Berends, Bodilly, & Kirby, 2002; Desimone, 2002; Supovitz & Weinbaum, 2008).

Strong school leadership matters in the implementation of MOWR, but where the leadership is located can vary. Strong leadership was clearly present in both school sites within the study, although located within different positions –

in a district administrator in one site and in the school principal in another. Although the leadership stemmed from different positions, the nature of the leadership was similar. Even though they operated from different positions, both leaders were responsible for seeking out information on MOWR and made the actual decision to adopt the model. Both leaders were actively engaged in the details of implementation, which involved working with their respective BES provider directly and participating in monthly MOWR Learning Collaborative meetings that involved all Arizona MOWR school sites, and managed the implementation process at their respective school site.

Teacher agency and teacher collaboration enhance implementation of MOWR at the local school level. Related to school capacity and making sense of what works for whom, when, where, and why (Honig, 2006), the results suggest that teacher agency influenced how MOWR was implemented in individual school sites, as did teacher collaboration through systemic structural supports at the school level.

How a school understands or internalizes the MOWR model influences the way in which it is implemented at the school site. Findings from this study support the conclusion that how a school understands or internalizes the MOWR model influences the way in which it is implemented at the school site.

The MOWR model itself is defined in some detail in state statute and in Arizona State Board of Education rule. It consists of a clearly defined BES, a performance-based high school diploma that must be made available as an option

305

to students who qualify for it based on their performance on end-of-course BES examinations, the offering of multiple pathways within and beyond the high school setting for students who qualify, and support for students who are struggling academically. The courses that schools need to offer as part of the BES are defined as are the providers from which the schools can choose - Cambridge or ACT QualityCore. In many ways, the "what" of implementation is defined for each school through state policy.

However, the case studies revealed that the MOWR policy can still be internalized differently. At one school site, for example, MOWR seemed to be viewed as a transformative education model truly set to college readiness performance standards and not to seat time. At another school site, MOWR seemed to be understood primarily as a performance-based diploma option available at the end of two years. Neither understanding of the model was necessarily wrong, but the understandings were different. In turn, the implementation of the model seemed to resemble the unique understanding of MOWR at each school site and, in particular, seemed to influence to what extent performance-based or mastery learning models were integrated within the structure or systems of the school site.

The perceived quality of the BES outweighs challenges faced in BES support. The findings from the study indicate that schools faced challenges relative to BES professional development and ongoing support. However, the schools seemed to perceive the BES itself (the curriculum and the assessments) as

high quality. The research literature on educational change suggests that the quality and practicality of the reform has been shown to influence implementation (Fullan, 2007). The quality of the BES and its practicality as a curriculum aligned to the Common Core State Standards may help to explain the qualitative data findings that suggest that for administrators and teachers, the quality of the BES outweighed many of the issues they dealt with related to BES provider support.

Implementing MOWR as a whole-school reform as opposed to a partial approach may enhance overall implementation. The study findings support the conclusion that implementing MOWR as a whole-school reform model, whereby all students in a school all take BES courses, the BES assessments, and have the option to qualify for a Grand Canyon High School Diploma, may enhance implementation of the MOWR policy at the local level. Of the five schools included in the study, all but one implemented MOWR as a whole-school reform strategy. The one site that chose to implement MOWR as a partial or cohort model was the school that was on the lowest end of implementation in comparison to the other four schools. There is not enough evidence to suggest that this factor alone could attribute to the lower implementation levels at that school. However, the findings from the cross-case analysis support the idea that implementation of MOWR as a whole-school model allows for a school to integrate systems so that MOWR becomes part of the fabric of the school as opposed to a supplementary activity or effort.

Research question 1.3: As an intermediary, in what ways does CFA influence the implementation process of MOWR at the local school level? With respect to the actual innovation in the study, the findings from the study suggest that the supportive organizational arrangements established and facilitated by CFA, the consultation and reinforcement, and the monitoring of MOWR influenced the implementation process. More specifically, the findings indicate that CFA influenced the implementation of MOWR at the local level in the following ways: through direct assistance, functioning as a conduit of information, facilitating communication, and serving as a mediating link across systems and actors. From the findings, three conclusions are drawn in relation to research question 1.3. Each is discussed below.

CFA influences the implementation of MOWR at the local level by accounting for local contexts and local needs. The innovation in this study was grounded in the premise that the implementation of MOWR reform involved multiple systems and actors, and was conceptualized utilizing a concerns-based approach for thinking about, planning for, monitoring, and facilitating change (Hall & Hord, 1987) that accounted for local contexts and local needs. Findings from the within-case and cross-case analysis indicate that while CFA was consistent in the types of actions it took within each school site to facilitate implementation, what CFA actually did varied based on the local needs of the school. The research literature in part can help to support this conclusion. The education policy implementation research shows that without sensitivity to local

variability, the implementation of state policy remains limited and risks being altered from its original intent (McLaughlin, 1990; Rossman, 1996). The research literature also suggests it is the process of implementation that matters most (McLaughlin, 1990) and that a number of factors may enhance or impede that process, one of which is the role of third party or intermediary organizations that may be involved in the implementation process (Honig, 2003).

CFA influences the implementation of MOWR at the local level by providing resources. The conclusion that CFA influences the implementation of MOWR at the local level by providing resources is drawn from the study findings that show CFA provided direct assistance to schools by working through implementation challenges and anticipating next steps, providing information directly to related to MOWR, and clarifying aspects of the MOWR model and policy for school and district leaders. This conclusion is consistent with the research literature on intermediary organizations and their function in the implementation of education reform and policy, which is often to provide resources such as knowledge of school sites and policy systems, providing social ties to sites and policy systems, and/or serving as an administrative infrastructure. These types of resources are necessary for implementation of collaborative education policy, but are traditionally unavailable in the district central office or within the individual school sites (Honig, 2004).

CFA influences the implementation of MOWR at the local level by functioning as a boundary broker across systems and actors. This conclusion is

supported by the study findings that suggest CFA was a conduit of information at multiple levels, and also acted as a mediating link between levels and across schools. CFA's function as a mediating link was evident in the role CFA played between the BES providers, schools, and NCEE; between schools and districts; between schools and NCEE; between schools and policymakers; and across schools. As explained in the research literature, organizations such as CFA that function as intermediary organizations typically comprise a "strategic middle," filling gaps within the policy system by virtue of their flexibility, expanded capacity, and ability to manage from the middle (McLaughlin, 2006).

Discussion

A number of ideas and possibilities emerged from this study that warrant discussion, but extend beyond the findings produced in relation to the three research questions. These ideas and possibilities are explored within this section.

CFA holds a position of power and trust. Through its role with the Arizona State Board of Education to manage and oversee implementation of MOWR, and having been actively involved in shaping the MOWR policy, CFA arguably functions as the "keeper" of the MOWR policy and is the most knowledgeable actor within the system about the actual MOWR policy. As the intermediary organization working between policymakers and schools, CFA is in a privileged position of choosing which elements of the reform model to emphasize, interpreting the intent of MOWR and communicating this to schools and the larger community, and in some cases even determining where there can be

310

flexibility in how the model is implemented. This study suggests that CFA is able

to intentionally utilize this positionality to influence how MOWR is implemented

in Arizona schools and understood within a larger state context.

The research literature suggests that CFA's positionality as an

intermediary organization makes it possible for CFA to assist in transitioning the

goals and components of the MOWR policy from the state level to the district and

school level (Datnow, 2006). However, positionality alone does not fully explain

CFA's actual influence in the implementation of MOWR at the local school level

in this study. Just because it is possible to influence implementation does not

mean it will actually occur. So what could help to explain CFA's actual influence

within the context of this study? One possibility is that in addition to holding a

position of power by virtue of its place within the larger policy system, CFA

holds a position of trust with the schools and other system actors. This is

plausible given CFA's role as a non-partisan actor with the flexibility to operate

outside of the political system and independent of the department of education.

This hypothesis could be further supported by the fact that CFA intentionally

focused its implementation work at the school level, taking into account local

needs and local complexities, as opposed to focusing on the MOWR policy alone.

This meant spending time in schools, building relationships with individual

school leaders, teachers and staff, and learning about the unique school and

community contexts within which MOWR was being implemented. In this way,

CFA influenced implementation of MOWR from a trust-based, not compliance-

based position, functioning as what might best be described as a "critical friend" to the schools in their implementation of MOWR.

Acceleration of the implementation of education reform policy through the MOWR Learning Collaborative model. The research literature on education reform implementation suggests that intermediary organizations can "provide a structure for diverse interests and organizations to join together to promote consistent standards of quality across sectors, to provide missing resources, and to leverage existing ones" (McLaughlin, 2006, p. 222). In many ways, this describes the function of the MOWR Learning Collaborative which was established by CFA at the outset of this study in order to network all the schools in Arizona that were implementing MOWR.

As described earlier in Chapter 3, CFA established the MOWR Learning Collaborative for several reasons. First, it created a structure conducive to collaborative planning whereby the schools were convened together by CFA for the purposes of problem setting, direction setting, and implementation through individual or joint actions (Margerum, 2002). CFA anticipated that this collaboration would likely contribute to increased capacity building at the site level, enhancing implementation. Second, it allowed CFA to monitor and be aware of activities, innovation, and alternative processes at each site. Monitoring provides accountability (Datnow, 2006) and by being aware of activities, innovations, and alternative processes, CFA could expand the knowledge base regarding what promotes or hinders implementation. Third, it provided a vehicle

through which CFA could emphasize key elements of the MOWR strategy, assisting schools in prioritizing what CFA identified to be critical components of the MOWR model (Berends, Bodilly, & Kirby, 2002; Datnow, Hubbard, & Mehan, 2002; Supovitz, 2008). Fourth, the MOWR Learning Collaborative enabled CFA to provide pragmatic solutions that could fill gaps at the local level (Honig, 2004; McLaughlin, 2006).

The findings from the study suggest that the MOWR Learning Collaborative did function in these ways, enabling CFA to manage from the middle and influence implementation across multiple school sites at once while providing a structure whereby schools could come together to get information, to share ideas and problem solve, and to know they were not alone in implementation of an comprehensive education reform policy. However, what emerged from this study that was not initially clear at the outset is the idea that the MOWR Learning Collaborative, coupled with CFA's positionality as a non-partisan, nonprofit organization, can potentially accelerate implementation of MOWR at a state, district, and school level. By the very nature of creating a collaborative, CFA is able to support more schools at once to implement the strategy, and the schools rapidly learn from the shared experiences of others which arguably contributes to capacity building in real time at a faster rate than if CFA were working with schools on an individual basis only.

Recent research literature on whole system reform may help explain how the MOWR Learning Collaborative is potentially contributing to the rapid

acceleration of the implementation of MOWR. Fullan (2010) has found that certain factors contribute to whole system reform. A number of these factors are evident in the MOWR Learning Collaborative: (1) relentless focused leadership at the center; (2) a non-punitive approach to accountability; (3) a positive stance with respect to the sector; and (4) learning from success regarding lateral and vertical dissemination and exchanges (Fullan, 2010). Unlike districts and schools that are charged with many responsibilities, CFA's unique positionality allows it to remain relentlessly focused on MOWR. With respect to the field, the MOWR Learning Collaborative approaches the education field from a positive stance, with the assumption that schools want to create positive educational change and that they have expertise, ideas, and experiences that can contribute to knowledge sharing across sites. The MOWR Learning Collaborative is centered on the premise that learning from success, as well as from failure will promote implementation. And finally, the MOWR Learning Collaborative provides a non-punitive approach to accountability. The structure creates what Fullan (2010) describes as an "effective pressure," or a pressure that positively motivates. The pressure radiates outward from the collective and the group of schools then becomes accountable to itself.

MOWR as a reform model with the potential to motivate schools to innovate and improve educational outcomes for students. This study suggests that when enacted as a whole-school strategy, the MOWR policy may have the potential to act as an education reform model that motivates schools to innovate

314

and improve educational outcomes for students through the actual act of implementing the model. Findings from the study suggest that despite the fact that schools indicated low levels of influencing the selection process to adopt MOWR and a BES provider, the schools were moving forward in implementing. They appeared to be focused on implementing the BES curriculum with fidelity, trying out new structures within their schools to facilitate implementation, and putting in place, or at least considering, new models for student academic support. Certain features of the MOWR model may facilitate its potential to motivate schools through its implementation: (1) the MOWR policy is optional, not mandated for schools; (2) there is flexibility in the model that allows and in many ways requires adaptation to meet local needs; (3) there is a balance between a coherent design and the need for innovation as evidenced by the well-defined BES and the other aspects of the MOWR model that require innovation, such as the implementation of a performance-based model; (4) the MOWR model is consistent with the direction of many new mandated state policies, such as Arizona's adoption of the Common Core State Standards, and has the potential to actually act as tool to help schools meet such mandates; and (5) through the Learning Collaborative, there is a sense of a collective working towards improving education together.

Study Limitations

While this study has produced a number of key findings, there were three primary limitations to this study that must be acknowledged. The first limitation

was the relative short amount of time within which the study was conducted. The time limitations likely influenced the comprehensiveness of the results. The second limitation was specific to my role as a researcher and participant in this study. While every effort was made to maintain the integrity of the data collection procedures and to employ processes to check for validity of results, my own potential bias or subjectivity must be acknowledged. The third limitation was sample size. Five sites were selected in order to maximize the effectiveness of the research collected through the multiple-case study approach. However, only two sites were utilized for full case study development.

Implications for Future Research

This study answered many questions about how MOWR is being implemented in Arizona schools and what seems to promote or hinder that process. However, the findings suggest the need for future research in specific areas. First and foremost, a suggestion for future research is to continue to examine how the five schools in this study implement MOWR in future years and the related outcomes. Due to the time constraints of this study, it was only possible to examine the very initial implementation of MOWR. Implementation of the full model will take a minimum of four years and will include developing and utilizing customized programs of support for students who do not qualify for the Grand Canyon High School Diploma and providing opportunities within and beyond the school setting for those who do, including implementing an upper division BES option. There is a risk with MOWR of unintended consequences,

such as the implementation of MOWR in a way that it leads to tracking of students or that due to the expense of implementing and sustaining the model, only schools with greater financial resources will be able to participate as a MOWR school. Continued study of the implementation process can help ensure that already identified possible unintended consequences will be attended to and can be purposefully examined. It can also potentially contribute to the identification of implementation models that most effectively lead to the desired outcome of MOWR, which is to graduate larger numbers of students better prepared for success in postsecondary education. Additionally, knowledge gained through studying the full implementation process can continue to inform future cycles of implementation of MOWR in new school sites while also informing policy that may need to be addressed in order to facilitate implementation.

Another suggestion for future research is to examine through an action research study how the MOWR Learning Collaborative specifically hinders or promotes the implementation of MOWR in schools. Similar to the present study, this research would be particularly important to CFA in understanding what seems to facilitate implementation and what types of structures or processes are most conducive to creating this type of collaboration across diverse types of schools. Knowledge could then be applied by CFA to change and/or improve practices through the MOWR Learning Collaborative and if needed, to alter the structure of the Learning Collaborative itself. Such research would have the potential to contribute to the body of research on professional learning

317

communities as well as to inform the practices of other third party organizations seeking to influence educational change.

Implications for Future Policy

This dissertation led to implications for future policy specific to MOWR. The MOWR policy currently in place may need to be amended to provide greater balance with respect to incentives for the multiple pathways the model provides once students qualify for the Grand Canyon High School Diploma. Currently, there is a financial incentive to schools for students to graduate early and enroll in community college, to continue in high school and pursue advanced study such as College Board Advanced Placement, or to enroll in a full-time career and technical education program. The current policy does not provide any incentive to the school or to the student for a student who is admissible and who desires to graduate early to enroll in a four-year university. Legislation was introduced during the 2012 legislative session that would create a pathway for students who qualify for a Grand Canyon High School Diploma and who complete additional coursework needed to prepare for admission to a selective college or university to be able to graduate early and for the school to benefit from a similar funding model as the one in place for the community college pathway, which includes the option to use dollars to provide scholarships to students.

Another implication for future policy is related to accountability at the state and federal level. A number of Arizona MOWR schools expressed interest in being held accountable for student learning to the MOWR and BES model as

318

opposed to the current state model of school accountability that is tied to the statewide Arizona Instrument to Measure Standards (AIMS). Currently, all students in Arizona must take the AIMS test. While the MOWR policy allows for students who pass their BES examinations and qualify for a Grand Canyon High School Diploma to bypass the high-stakes aspect of AIMS required for high school graduation, the school ultimately remains accountable to AIMS at a state and federal level.

Recommendations for Future Practice

This study provided an eight-month look at the very initial stages of implementation of the MOWR model in five school sites across Arizona. The importance of this study was to be able to better support schools in their implementation of MOWR for the purpose of increasing the number of students across all populations who graduate prepared for and go on to education beyond high school. Even though full implementation of MOWR model will require an additional three years, this study has yielded a number of recommendations I might suggest for CFA, for MOWR schools, for schools in general, for other third party organizations, and for policymakers.

Recommendations for CFA.

1. Continue to convene and facilitate the MOWR Learning Collaborative.

2. Consider expanding the Learning Collaborative to accommodate different types of collaborative work with different partners. (E.g.

middle schools, development of upper division pathways, and piloting of adaptive student academic support technologies.)

3. Identify target levels of implementation expected of MOWR schools.

4. Complete an audit of implementation with schools to identify gaps, areas where assistance is needed, and to provide feedback as to where the school is along the continuum of MOWR implementation.

5. Continue to provide direct assistance to schools on implementation steps they should take, particularly for schools just beginning to implement MOWR. (E.g. registering teachers for professional development, course sequencing, and asking probing questions about practices at the school site that may or may not promote implementation of MOWR.)

6. Reconsider the use of the MOWR school level planning guides.

7. Increase communication with BES providers to identify and address challenges faced by schools relative to training and ongoing support.

8. Employ a variety of communication strategies to build greater understanding of the intent of the MOWR model and how it is being implemented.

Recommendations for MOWR Schools.

1. Participate in the MOWR Learning Collaborative.

2. Consider implementing MOWR as a whole-school strategy as opposed to a cohort model, or transitioning from a cohort model to a whole-school strategy.

3. Increase communication about MOWR internally, particularly with teachers and students, and externally to ensure there is deeper understanding of the full MOWR model.

4. Establish and utilize systemic structural supports to support teachers in their implementation of MOWR and the BES curriculum. (E.g. collaborative structures.)

5. Provide teachers time for collaboration to implement the BES curriculum as an ongoing process.

6. Create opportunities for, and then value teacher decision making (teacher agency) that can shape implementation of MOWR at the school level.

Recommendations for Schools in General.

1. New schools or schools that are reconstituting should consider adoption of a whole-school MOWR strategy as a way to innovate, create buy-in and support of teachers, and improve student learning.

2. Integrate education reforms within the systems of the school as opposed to implementing them as an "add-on."

3. Collaboration within and across schools is more valuable than "delivery models" of school change or improvement. (E.g. delivery of professional development or new programs.)

Recommendations for Third Party Organizations Attempting to Influence Implementation of Education Policies or Reforms.

1. Consider utilizing a collaborative structure, such as the MOWR Learning Collaborative, as a tool to facilitate collaborative planning and implementation.

2. Consider developing an implementation "game plan" that takes into account local contexts as opposed to focusing alone on the education policy or reform.

Recommendations for Policymakers.

1. Consider establishing education reform or innovation policies that are well-defined in design, but allow for some flexibility for different approaches in implementation at the local level.

2. When developing and shepherding education reform or innovation policies, consider identifying a nonpartisan organization well-positioned to function as an intermediary between policymakers and practitioners to support and champion the policy and its refinement.

322

3. Consider establishing a role within new education reform or innovation policies that explicitly calls for a nonpartisan organization to manage and oversee implementation of the policy, working between policymakers and practitioners responsible for actual implementation at the local level.

Final Remarks

My interest in this study grew out of my professional practice and personal desire to improve educational outcomes for all students, especially minority students and low-income students who often lack access to the same education as their more affluent peers. I am committed to the MOWR initiative and the potential I believe it has to increase the numbers of students across all populations who graduate prepared for a variety of postsecondary education experiences, but I recognize that adoption of the MOWR alone will not necessarily result in the aspired outcomes. It is really dependent on whether or not the model can significantly change educational practices in high schools. Though this study, I was able to critically examine the model itself and the way in which it is being implemented to begin to understand to what extent and in what ways it is or is not changing educational practices in schools. By studying the implementation process in diverse schools across the state, I now have a deeper understanding of the complexity of implementing the MOWR model, the challenges the schools face in taking on this ambitious reform, and factors that appear to promote or impede implementation. I better understand how the MOWR policy changes as it

323

enters into schools, and what things may need to be held constant and what things may need to change depending on the local context and needs of a school. As a result, I believe I am better equipped to more effectively work with partner MOWR schools to implement MOWR, and better able to improve upon the practices of CFA as the intermediary organization leading the statewide initiative. My hope is that the knowledge gained from this study benefited the schools in their implementation work, that it will lead the way for further collaborative action research between CFA and the MOWR schools in this area, and that it will inform the future practices of individuals and organizations engaged in educational change.

REFERENCES

Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college.* Washington, DC: U.S. Department of Education. Retrieved from http://www.ed.gov/rschstat/research/pubs/toolboxrevisit/toolbox.pdf

Adelman, C. (2007). Do we really have a college access problem? *Change, 39*(4), 48-51.

Alliance for Excellent Education. (2006). *Paying double: inadequate high schools and community college remediation.* Retrieved from http://www.all4ed.org/files/archive/publications/remediation.pdf

Arizona State Legislature. HB 2731 Bill Status Overview, Forty-Ninth Legislature, Second Regular Session. Retrieved from http://www.azleg.gov

Berman, P., & McLaughlin, M. (1978). Federal programs supporting educational change, Volume VIII: Implementing and sustaining innovation. Santa Monica, CA: Rand Corporation.

Berends, M., Bodilly, S. J., & Kirby, S. N. (2002). *Facing the challenges of whole-school reform: New American schools after a decade*. Santa Monica, CA: Rand Education.

Bishop, J. (1998). *Do curriculum-based external exit exam systems enhance student achievement?* (CPRE Research Report No. RR-040). Philadelphia, PA: University of Pennsylvania, Consortium for Policy Research in Education.

Bishop, J. (2005). High school exit examinations: When do learning effects generalize? *The Yearbook of the National Society for the Study of Education, 104*(2), 260-288.

Bishop, J. H., Mane, F., Bishop, M., Moriarty, J., Murnane, R., & Steinberg, L. (2001). The role of end-of-course exams and minimum competency exams in standards-based reforms. *Brookings Papers on Education Policy,* (4), pp. 267-345.

Bodilly, S. (1996). *Lessons from New American Schools Development Corporation's demonstration phase.* Santa Monica, CA: Rand Corporation.

Bowen, G. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27-40.

Boyd, W. (2007). The politics of privatization in American education. *Educational Policy, 21*(1), 7-14.

Brown, F. (1997). Privatization and urban education. *Education and Urban Society, 29*(2), 204-216.

Brown, F. (1995). Privatization of public education: Theories and concepts. *Education and Urban Society, 27*(2), 114-26.

Brown, F. (2002). Privatization of public elementary and secondary education in the United States of America. *Education and the Law, 14*(1), 99-115.

Brown, F. & Hunter, R. (1995). Introduction: Privatization of public school services. *Education and Urban Society, 27*(2), 107-113.

Carnvale, A. P., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and the economy through 2018*. Washington, D.C.: Georgetown University, Center on Education and the Workforce.

Coburn, C. E. (2005). The role of nonsystem actors in the relationship between policy and practice: The case of reading instruction in California. *Educational Evaluation and Policy Analysis, 27*(1), 23-52.

Coburn, C. E., & Stein, M. K. (2006). Communities of practice theory and the role of teacher professional community in policy implementation. In M.I. Honig (Ed.), *New Directions in Education Policy Implementation: Confronting Complexity.* Albany, NY: The State University of New York.

Cole, S. (2010). The early college high school initiative: An overview of five evaluation years. *Peabody Journal of Education, 85*(3), 333-347.

College Board. (2010). *Education pays 2010.* Retrieved from http://trends.collegeboard.org/education_pays

Complete College America Arizona State Report. (2010). *Complete college America*. Retrieved from http://www.completecollege.org/docs/Arizona.pdf

Conley, D. (2007). Comparing state high school assessments to standards for success in entry-level university courses. *Educational Assessment, 12*(2), 137-160.

Conley, D. (2008). Rethinking college readiness. *New Directions for Higher Education,* (144), 3-13.

Cook, B., & Cordova, D. (2007). *Minorities in higher education twenty-second annual status report: 2007 supplement.* Washington, DC: American Council on Education.

Costrell, R. (2001). Incentives and equity under standards-based reform. *Brookings Papers on Education Policy, 2001.*

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334.

Darling-Hammond, L. (2006). No child left behind and high school reform. *Harvard Educational Review, 76*(4), 642-667.

Datnow, A. (2000). Power and politics in the adoption of school reform models. *Educational Evaluation and Policy Analysis, 22*(4), 357-374.

Datnow, A. (2006). Connections in the policy chain: The "co-construction" of implementation in comprehensive school reform. In M. I. Honig (Ed.), *New directions in education policy implementation: Confronting complexity* (pp. 209–228). Albany, NY: The State University of New York Press.

Datnow, A., Borman, G., & Stringfield, S. (2000). School reform through a highly specified curriculum: Implementation and effects of the core knowledge sequence. *The Elementary School Journal, 101*(2), 167-191.

Datnow, A., Hubbard, L., & Mehan, H. (1998). *Educational reform implementation.* Santa Cruz, CA: Center for Research on Education, Diversity and Excellence.

Datnow, A., Hubbard, L., & Mehan, H. (2002). *Extending educational reform: From one school to many*. London, UK: Routledge/Falmer.

Datnow, A., Lasky, S., Stringfield, S., & Teddlie, C. (2006). *Integrating educational systems for successful reform in diverse contexts*. New York, NY: Cambridge University Press.

Datnow, A., & Stringfield, S. (2000). Working together for reliable school reform. *Journal of Education for Students Placed at Risk, 5*(1), 183-204.

Desimone, L. (2002). How can comprehensive school reform models be successfully implemented? *Review of Educational Research, 72*(3), 433-479.

Fink, A. (2003). *The survey kit* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Fraenkel, J. R. & Wallen, N. E. (2005). Validity and reliability, in J. R. Fraenkel and N. E. Wallen, *How to design and evaluate research in education with PowerWeb*, pp. 152-171, Hightstown, NJ: McGraw Hill Publishing Co.

Fuchs, T., & Woessmann, L. (2007). What accounts for international differences in student performance? A re-examination using PISA data. *Empirical Economics, 32*(2-3), 433-464. doi:http://www.springerlink.com/link.asp?id=102505

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). New York, NY: Teachers College Press.

Fullan, M. (2010). *All systems go: The change imperative for whole system reform.* Thousand Oaks, CA: Corwin Press.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2000). *Educational research: competencies for analysis and applications* (9th ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research.* New York, NY: Aldine Publishing Company.

Greene, J. C., & Caracelli, V. J. (1997). *Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms*. San Francisco, CA: Jossey-Bass Publishers.

Hall, G. E., & Hord, S. M. (1987). *Change in schools: Facilitating the process*. Albany, NY: State University of New York Press.

Hall, G. E., & Hord, S. M. (2011). *Implementing change: Patterns, principles, and potholes*. Boston, MA: Pearson.

Honig, M. (2003). Building policy from practice: District central office administrators' roles and capacity for implementing collaborative education policy. *Educational Administration Quarterly, 39*(3), 292-338.

Honig, M. (2004). The new middle management: Intermediary organizations in education policy implementation. *Educational Evaluation and Policy Analysis, 26*(1), 65-87.

Honig, M. (2006). *New directions in education policy implementation: Confronting complexity*. Albany, NY: State University of New York Press.

Hoy, W. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal, 93*(4), 355-72.

Hunter, R. (1995). Privatization of instruction in public education. *Education and Urban Society, 27*(2), 168-194.

Jacob, B. A. (2001). Getting tough? The impact of high school graduation exams. *Educational Evaluation and Policy Analysis, 23*(2), 99-121.

Jimerson, J. (2010). Assessing the effects of high school exit examinations. *Review of Educational Research, 80*(4), 476-526.

Johnson, R. B. (2001). Toward a new classification of nonexperimental quantitative research. *Educational Researcher, 30*(2), 3-13.

Johnson, R. B. & Onwuegbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26.

Kaniuka, T. (2010). Lessons learned: How early college high schools offer a pathway for high school reform. *NASSP Bulletin, 94*(3), 165-183.

Kurasaki, K. (2000). Intercoder reliability for validating conclusions drawn from open-ended interview data. *Field Methods, 12*(3), 179-194.

Kurki, A., Boyle, A., & Aladjem, D. (2006). Implementation: Measuring and explaining the fidelity of CSR implementation. *Journal of Education for Students Placed at Risk, 11*(3), 255-277.

Kvale, S. (1996). The social construction of validity, in S. Kvale, *Interviews: An introduction to qualitative research interviewing,* pp. 229-252, Thousand Oaks, CA: Sage Publications.

Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. New York, NY: Sage Publications.

Madaus, G. (1991). The effects of important tests on students. *Phi Delta Kappan, 73*(3), 226-31.

Margerum, R. (2002). Collaborative planning - building consensus and building a distinct model for practice. *Journal of Planning Education and Research, 21*(3), 237-253.

Maricopa Community College District. (2010). *Academic performance of 2009 high school graduates: "2040" Report for 2010.* Retrieved from http://www.maricopa.edu/business/ir/2040/2040_Executive_Summary_2010 _Report_2009_HS_Grad.pdf

Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review, 62*(3), 279-300.

McLaughlin, M. (1990). The RAND change agent study revisited: Macro perspectives and micro realities. *Educational Researcher, 19*(9), 11-16.

McLaughlin, M. (2006). Implementation research in education: Lessons learned, lingering questions, and new opportunities. In M. I. Honig (Ed.), *New directions in education policy implementation: Confronting complexity* (pp. 209–228). Albany, NY: The State University of New York Press.

Mehan, H., & Alvarez, D. (2006). Whole-school detracking: A strategy for equity and excellence. *Theory into Practice, 45*(1), 82-89.

Merriam-Webster's collegiate dictionary (11th ed.). (2008). Springfield, MA: Merriam-Webster.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Mills, G. E. (2007). *Action research: A guide for the teacher researcher* (3rd ed.). Boston, MA: Pearson.

Miller, R. (2007). Organizational strategies for promoting instructional change: Implementation dynamics in schools working with comprehensive school reform providers. *American Educational Research Journal, 44*(2), 252-297.

Migliore, D. E. (2006). *Safe, healthy and ready to succeed: Arizona school readiness key performance indicators*. Phoenix, AZ: Arizona Governor's Office.

Mitra, D. (2001). Theory-based change and change-based theory: Going deeper, going broader. *Journal of Educational Change, 2*(4), 301-323.

Morgan, G. A., Leech, N. L., Gloeckner, G. W., & Barrett, K. C. (2004) *SPSS for introductory statistics: use and interpretation.* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Muncey, D. E., & McQuillan, P. J. (1996). Reform and resistance in schools and classrooms: An ethnographic view of the Coalition of Essential Schools. New Haven, CT: Yale University Press.

Nagaoka, J. (2009). College readiness for all: The challenge for urban high schools. *The Future of Children, 18*(3), 185-210.

National Center for Educational Statistics. (2004). *Indicator 18: Remediation and degree completion.* The Condition of Education. Washington, DC: U. S. Department of Education. Retrieved from http://nces.ed.gov/programs/coe/2004/section3/indicator18.asp

National Center for Educational Statistics. (2009). *Common core of data public school data* [Data file]. Washington, DC: U.S. Department of Education. Retrieved from http://nces.ed.gov/ccd/

National Center for Educational Statistics. (2009). *NAEP state profiles* [Data file]. Washington, DC: U.S. Department of Education. Retrieved from http://nces.ed.gov/nationsreportcard/states/

National Center on Education and the Economy (U.S.). (2008). New Commission on the Skills of the American Workforce. *Tough choices or tough times: The report of the new commission on the skills of the American workforce* (Revised and expanded.). San Francisco, CA: Jossey-Bass.

National Center on Education and the Economy (U.S.) (2010). *The consortium on board examination systems: A program of the National Center on Education and the Economy*. Retrieved from http://www.ncee.org/programs-affiliates/consortium-board-examination/must-read/

New America Foundation. (2011). *Federal education budget project Arizona data*. Retrieved from http://febp.newamerica.net/k12/AZ

Noguera, P. (2002). Beyond size: The challenge of high school reform. *Educational Leadership, 59*(5), 60-63.

Oakes, J. (1998). Detracking for high student achievement. *Educational Leadership, 55*(6), 38-38.

Oakes, J. & Saunders, M. (Eds). (2008). *Beyond tracking: Multiple pathways to college, career, and civic participation.* Cambridge, MA: Harvard Press.

Patton, M. Q., & Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.

Pearson, K. (1900). On the criterion that a given system of deviations from the probable in the case of a correlated system of variables is such that it can be reasonably supposed to have arisen from random sampling. *Philosophical Magazine Series 5* 50: 157–175. doi:10.1080/14786440009463897.

Philippou, G. (2010). Teachers' concerns and efficacy beliefs about implementing a mathematics curriculum reform: Integrating two lines of inquiry. *Educational Studies in Mathematics, 75*(1), 1-21.

Rossman, G. (1996). Context, courses, and the curriculum local responses to state policy reform. *Educational Policy, 10*(3), 399-421.

Rowan, B., & Miller, R. (2007). Organizational strategies for promoting instructional change: Implementation dynamics in schools working with comprehensive school reform providers. *American Educational Research Journal, 44*, 252-297.

Stollar, S. A., Poth, R. L., & Curtis, M. J. (2006). Collaborative strategic planning as illustration of the principles of systems change. *The School Psychology Review, 35*(2), 181-197.

Strauss, A. L., & Corbin, J. M. (1998). *Basics of qualitative research: Grounded theory procedures and techniques* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Stringer, E. T. (2007). *Action research in education* (2nd ed.). Columbus, OH: Pearson Prentice Hall.

Supovitz, J. A., & Weinbaum, E. H. (2008). *The implementation gap: Understanding reform in high schools*. New York, NY: Teachers College Press.

Symonds, W. C., Schwartz, R., & Ferguson, R. F. (2011). Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century. Cambridge, MA: Pathways to Prosperity Project, Harvard University Graduate School of Education. Retrieved from http://nrs.harvard.edu/urn-3:HUL.InstRepos:4740480

Trowbridge, M. (2005). The structure of early care and education in the United States: Historical evolution and international comparisons. *Tax Policy and the Economy, 19*, 1-37.

Turnbull, B. (2002). Teacher participation and buy-in: Implications for school reform initiatives. *Learning Environments Research, 5*(3), 235-252.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Venezia, A. (2008). Between high school and college: Can multiple pathways bridge the divide. In J. Oakes & M. Saunders (Eds), *Beyond tracking: Multiple pathways to college, career, and civic participation* (pp. 213-231). Cambridge, MA: Harvard Press.

Venezia, A., & Kirst, M. W. (2005). Inequitable opportunities: How current education systems and policies undermine the chances for student persistence and success in college. *Educational Policy, 19*(2), 283-307.

Weick, K. (1984). Small wins: Redefining the scale of social problems. *The American Psychologist, 39*(1), 40-49.

Welner, K. (2005). Closing the achievement gap by detracking. *Phi Delta Kappan, 86*(8), 594-598.

APPENDIX A

SYSTEM AND ACTOR ROLES RELATIVE TO IMPLEMENTATION OF

MOWR IN ARIZONA

Actor	Role Relative to MOWR Implementation
Arizona State Board of Education	Develop and adopt MOWR rules for the state and schools to follow
	Selected CFA to manage and oversee MOWR for the first five years
	Approve providers of BES
	Approve pass scores on BES examinations in math and English; develop and adopt pass scores in history, science, fine arts
Arizona Department of Education	Ensure schools implementing a MOWR strategy are in compliance with state and federal rules
Arizona State Legislature	Passed Arizona MOWR legislation in 2011. Built on the NCEE BES model and established the framework for the Arizona MOWR initiative
Board Examination System Providers	Work directly with Arizona school sites to adopt and implement the BES (includes professional development, standards, curriculum, and assessments)
CFA	Integral in development and passage of the MOWR legislation and the Arizona State Board of Education MOWR rules
	Work directly with the Arizona State Board of Education to develop the Grand Canyon High School performance-based diploma (in alignment with NCEE recommendations)
	Recruit schools to implement the MOWR strategy
	Works directly with Arizona school sites to implement MOWR
	Work directly with NCEE and BES providers to facilitate implementation at local levels
	Communicates the MOWR concept and vision across the state
	Developed the concept of a whole-school MOWR strategy to be implemented by schools
Early Adopter MOWR Districts/Charter Networks	Provide resources to pay for a BES provider
	Provide administrative support for implementation of MOWR
	Determine participation in NCEE longitudinal evaluation of BES

Early adopter MOWR Schools	Volunteer to implement a MOWR strategy
	Select a BES provider
	Determine use of whole-school or partial school implementation
Local Education Foundation	Provide an 18 month planning grant to support CFA in the development of a whole-school MOWR model in collaboration with a school site (district) and in the development of an implementation blueprint to be used by schools across the state that volunteer to implement a whole-school MOWR strategy
MOWR Learning Collaborative	Provides opportunity for collaborative planning and knowledge sharing relative to implementation of MOWR at the school level through a network of early adopter schools facilitated by CFA

APPENDIX B

CFA MOWR IMPLEMENTATION GAME PLAN

			April-11	May-11	July-11	September-11	November-11	December-11
Game Plan Component (GPC)	**Strategy (S)**	**Tactic (T)**						
GPC 1: Developing Supportive Organizational Arrangements	S: Establish MOWR Learning Collaborative	T: First MOWR Learning Collaborative (LC) Team Meeting (In-Person)		T: MOWR LC Monthly Meetings (Telephonically in May, June, July, September, October, and December) (In-Person in August and November)				
	S: Develop a MOWR Early Adopter Starter Packet	T: Early Adopter Starter Packet is Provided to Schools						
	S: Establish MOWR School-Level Design Teams			T: MOWR School-Level Design Team Meetings in May, August, October and December				
	S: Develop a Memorandum of Understanding (MOU) between CFA and MOWR schools	T: CFA shares MOU with schools and asks for it to be signed and returned						
GPC 2: Training	S: CFA School-Level MOWR Presentations			T: CFA makes presentations to faculty and staff at each school				
	S: Board Examination System Training (Delivered by BES providers)	T: BES Training for Teachers (Schedule to be determined)						
GPC 3: Consultation and Reinforcement	S: CFA makes scheduled visits to meet with MOWR School-Level Design Teams			T: MOWR School-Level Design Team Meetings in May, August, October and December				
	S: CFA is on call for school visits and consultation	T: CFA takes calls from schools and/or emails and responds						
		T: CFA visits schools when asked to provide assistance, consultation, problem solving						
	S: National partner is on call for school visits and consultation	T: National partner visits schools when asked to provide assistance, consultation, problem solving (visits likely include CFA)						
GPC 4: Monitoring and Evaluation	S: Periodically concerns of teachers are assessed and discussed by CFA and MOWR School-Level Design Teams	T: Open-ended concerns statement paper is given to grade 9 teachers in all schools at least three weeks prior to MOWR school-level design team meetings						
		T: Innovation Configuration (IC) is given to principals and grade 9 teachers in all schools in August and December						
				T: MOWR School-Level Design Team discusses open-ended concerns data and adjusts plans in May and September				
	S: Periodically CFA conducts site visits to schools for observations			T: CFA pays at least 3 visits to the MOWR schools between May and December				
	S: Periodically extent of implementation of MOWR is assessed by CFA and discussed with the MOWR School-Level Design Teams and Learning Collaborative	T: CFA surveys teachers to assess extent of implementation in September and December						
				T: During MOWR School-Level Design Team, data are shared about extent of implementation and site visit observations in May and September				

APPENDIX C

MOWR LEARNING COLLABORATIVE SAMPLE AGENDA

AGENDA

Move On When Ready
Learning Collaborative Meeting

Monday, April 4, 2011
1:00pm
Center for the Future of Arizona

Attendees:
XXXXXX

Agenda:

1:00 – 1:20 pm   Welcome and Introductions

1:20 – 1:40 pm   MOWR and the Learning Collaborative – The Big Picture

1:40 – 2:30 pm   Hearing from Each Other – MOWR at Each School Site

2:30 – 2:45 pm   Break

2:45 – 3:30 pm   Getting into the Details – Early Adopter Logistics
- The Grand Canyon H. S. Diploma and Board Examination Systems – Procurement, Training, Course Descriptions, Examinations
- Discuss the establishment of a MOWR school level design team
- Review "MOWR Early Adopter Starter Kit"

3:30 – 3:50 pm   Discussion – Q&A
- MOWR Learning Collaborative Meetings – Topics and Meeting Schedule

3:50 – 4:00 pm   Wrap-Up and Next Steps
- Exit Survey

APPENDIX D

SAMPLE MOWR EARLY ADOPTER SCHOOL MEMORANDUM OF

AGREEMENT

The Arizona Move On When Ready Initiative
Early Adopter School Memorandum of Agreement

This Memorandum of Agreement (hereafter "MOA") is entered into between the Center for the Future of Arizona (hereafter "CFA") and the XXX School District (hereafter "XXX") for the purpose of participating in and supporting the advancement of the Arizona Move On When Ready Initiative.

WHEREAS, the purpose and intent of this collaboration is to plan for and implement a Move On When Ready (hereafter "MOWR") strategy with the goal of ensuring all students participate in a rigorous, curriculum-driven proven system of aligned instruction and examinations guided by national and international college and career readiness standards designed to ensure they master the knowledge and skills needed to be prepared for and succeed in postsecondary studies without remediation – whether that is at a trade or technical school, community college or four-year baccalaureate degree granting institution;

WHEREAS, CFA and XXX School District are desirous of working together to develop a MOWR implementation plan;

WHEREAS, upon completion of the MOWR implementation plan, XXX School District agrees to implement the plan to the best of its ability.

NOW, THEREFORE, in consideration of the mutual promises declared herein, the Parties declare as follows:

1. The Parties agree to participate in a collaborative planning process through which the vision and goals of the MOWR strategy are further clarified and a plan is identified by which the goals will be met.

2. The Parties agree that XXX School District, in collaboration with CFA, will identify a MOWR school level design team that will include representation from key stakeholders. Stakeholders are not limited to, but may include principals, teachers, counselors, students, parents, and other community members. The team will work with CFA in the design and development of the MOWR implementation plan with the goal of ensuring the plan is fully owned by XXX School District.

3. The Parties agree the following elements will be addressed through

the planning process and reflected in the implementation plan:

a. Identification and use of an Arizona State Board of Education approved Board Examination System (hereafter " BES");

b. Teacher professional development;

c. Students in grades 9 and 10 participate in a lower division BES;

d. The opportunity for all students in grades 9 and 10 to take the lower division BES assessments at no cost to the student;

e. Availability of the Grand Canyon High School Diploma as an option to all students who meet the minimum qualifications;

f. Multiple upper division (grade 11/12) education pathways, including a BES upper division;

g. Student academic supports;

h. Student academic advising support;

i. Pipeline planning with K-8 schools;

j. Teacher and counselor buy-in and engagement;

k. District and school policy that facilitates the MOWR strategy;

l. A process by which family, student, and greater community awareness and support for the MOWR strategy is captured;

m. A plan for sustainability of the MOWR strategy over time (monetarily and as part of the school site/district strategic plan); and

n. A research and evaluation plan by which the district and individual school sites can evaluate the MOWR strategy

4. The Parties agree that XXX School District will recognize CFA as the organization with whom they are collaborating in the Arizona MOWR initiative, and will collaborate with CFA on any press releases or public communications relative to MOWR. Likewise, CFA will

recognize XXX School District as an early adopter of MOWR in public communications and will collaborate with XXX School District on communications.

5. The Parties agree that notwithstanding any other law, XXX School District and CFA will share data for the purposes of informing the development of the plan and monitoring early experiences in initial adoption of MOWR.

6. The term of this MOA shall be from May, 2011 to May, 2015, unless one party notifies the other parties that it no longer wishes to participate.

IN WITNESS THEREOF, the Parties to this MOA have caused their names to be affixed hereto by their proper officers on the dates indicated.

X SCHOOL DISTRICT GOVERNING BOARD

_____   **DATE: _____**
XXX, Governing Board President

X DISTRICT SUPERINTENDENT

_____   **DATE: _____**
XXX District Superintendent

X Participating Early Adopter High School

_____   **DATE: _____**
XXX, Move On When Ready Early Adopter High School Principal

X Participating Early Adopter High School

_____   **DATE: _____**
XXX, Move On When Ready Early Adopter High School Principal

CENTER FOR THE FUTURE OF ARIZONA

_____   **DATE: _____**
XXX, Executive Director

344

APPENDIX E

MOWR ANTICIPATED PROGRAMMATIC IMPLEMENTATION

TRAJECTORY

Implementation: Programmatic Trajectory (at school-site level)

Selection of a lower division Board Examination System (BES) Selection of lower division BES courses (English, Math, Science, History, and Fine Arts) Teacher participation in professional development	Cohort 1 students take lower division BES courses as freshman Cohort 1 begin to take lower division BES examinations Teacher participation in BES professional development	Cohort 1 students continue to take lower division BES courses as sophomores Cohort 1 students continue to take lower division BES examinations Opportunity for cohort 1 students to qualify for a Grand Canyon H. S. Diploma School site selection of an upper division BES system Selection of upper division BES courses (English, Math, Science, History, and Fine Arts) Teacher participation in professional development	Cohort 1 students who qualify for a Grand Canyon High School Diploma select from among upper division grade 11/12 options offered by the local school site (including option to graduate early or continue in an upper division BES) Cohort 1 students who do not qualify for Grand Canyon High School Diploma continue to prepare for and take the BES examinations	Cohort 1 students who qualify for a Grand Canyon High School Diploma and elect to remain in high school continue to participate in an upper division option offered by the local school site (including an upper division BES) Cohort 1 students who did not qualify for Grand Canyon High School Diploma continue coursework and take lower division BES examinations

2011   2012   2013   2014

APPENDIX F

URBAN-CENTRIC LOCALE CODES

CENTER FOR EDUCATION STATISTICS
URBAN-CENTRIC LOCALE CATEGORIES, RELEASED IN 2006

Locale	Definition
City	
Large	Territory inside an urbanized area and inside a principal city with population of 250,000 or more
Midsize	Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000
Small	Territory inside an urbanized area and inside a principal city with population less than 100,000
Suburb	
Large	Territory outside a principal city and inside an urbanized area with population of 250,000 or more
Midsize	Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000
Small	Territory outside a principal city and inside an urbanized area with population less than 100,000
Town	
Fringe	Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area
Distant	Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area
Remote	Territory inside an urban cluster that is more than 35 miles from an urbanized area
Rural	
Fringe	Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster
Distant	Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster
Remote	Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster

SOURCE: Office of Management and Budget (2000). Standards for Defining Metropolitan and Micropolitan Statistical Areas; Notice. Federal Register (65) No.249.

APPENDIX G

TIMELINE ASSOCATIATED WITH DATA COLLECTION PROCEDURES

Data Collection	July 2011	Aug 2011	Sept 2011	Oct 2011	Nov 2011	Dec 2011	Jan 2012	Feb 2012
School Level Survey *(RQ1.1, RQ1.2)*				X			X	
MOWR School level Design Team Meeting Observations *(RQ1.1, RQ1.2, RQ 1.3)*			X	X	X		X	
School Site Visit Observations *(RQ1.1, RQ1.2, RQ 1.3)*		X	X	X	X		X	
Interviews *(RQ1.1, RQ1.2, RQ 1.3)*							X	X
School Document Review (Including Implementation Game Plan) *(RQ1.1, RQ 1.3)*	X	X	X	X	X	X	X	X
MOWR Learning Collaborative Observations *(RQ1.1, RQ1.2, RQ 1.3)*	X	X	X	X	X		X	
MOWR Non-School Actors Focus Group *(RQ1.1, RQ1.2, RQ 1.3)*							X	
Researcher's Analytic Memos *(RQ1.1, RQ1.2, RQ 1.3)*	X	X	X	X	X	X	X	X

APPENDIX H

SCHOOL LEVEL SURVEY

Move On When Ready - School Survey October 2011

1. Move On When Ready School Survey - Cover Letter

Dear School Faculty or Staff Member,

I am the Director of Education Strategy and Innovation at the Center for the Future of Arizona and a doctoral student under the direction of Dr. Oscar Jimenez-Castellanos in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to understand what promotes or hinders the implementation of the Move On When Ready policy in Arizona schools with the overall goal of more effectively assisting schools in their implementation of this new reform model.

I am inviting your participation in this study because your high school is participating as a Move On When Ready school. Your participation in this study will involve filling out two surveys. The first survey accompanies this letter and the second survey, which will be administered electronically, will be sent to you in late January 2012. The survey will take approximately 15-20 minutes to fill out.

The Center for the Future of Arizona, a non-profit organization located in Phoenix, was selected by the Arizona State Board of Education to manage the Move On When Ready initiative and to work with schools that choose to participate. Key components of the Move On When Ready model include implementation of board examination systems such as Cambridge International Examinations or ACT QualityCore in ninth and tenth grades, and offering multiple educational options which include the Grand Canyon High School Diploma approved by the Arizona Legislature in 2010.

While greatly appreciated, your participation in this study is voluntary. You can skip questions if you wish. If you choose not to participate or to withdraw from the study at any time, there will be no penalty.

Responses to this survey will help inform the Center for the Future of Arizona's work with schools implementing the Move On When Ready model. The possible benefits of your participation in this study include: broader understanding of the implementation of education policy in schools; enhanced implementation of the Move On When Ready policy in Arizona schools; improvements to future cycles of planning and implementation of Move On When Ready in Arizona schools; and improvements to state policy related to Move On When Ready. There are no foreseeable risks to your participation.

Please be assured that all survey responses will remain anonymous and are confidential. The results of this study may be used in reports, presentations, or publications but your name will not be known and results will only be shared in the aggregate form.

If you have any questions concerning this survey or the research study, please contact Amanda Burke at 602-496-2037. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at 480-965-6788.

Return of the questionnaire will be considered your consent to participate.

Thank you for your participation. I greatly appreciate your time and candid feedback.

Sincerely,
Amanda Burke

2. Part A: Information About You

352

Move On When Ready - School Survey October 2011

What is your gender?

◯ Male

◯ Female

What is your race?

☐ African American

☐ American Indian

☐ Asian

☐ Hispanic

☐ Multiracial

☐ Pacific Islander

☐ White

☐ Other

If you selected "other" please specify:

[   ]

What is Your Current Position?

☐ Administrator

☐ Teacher Leader (for example, Department Chair or Professional Development Specialist)

☐ Teacher

☐ Other (please specify)

[   ]

What grade(s) do you currently teach?

☐ Grade 9

☐ Grade 10

☐ Grade 11

☐ Grade 12

☐ Not teaching

What subject(s) do you currently teach?

- [ ] English
- [ ] Math
- [ ] Social Studies/History
- [ ] Science
- [ ] Foreign Language
- [ ] Visual and Performing Arts
- [ ] Yearbook/Newspaper
- [ ] Physical Education
- [ ] Technology
- [ ] Business
- [ ] Vocational
- [ ] Special Education
- [ ] English as a Second Language
- [ ] Other
- [ ] Not teaching

Including this academic year, how many years have you been in your current position as an administrator, teacher leader or teacher?

- [ ] 1–4
- [ ] 5–10
- [ ] 11–16
- [ ] 17–24
- [ ] 25–35
- [ ] 36–40
- [ ] 41–42
- [ ] 43–45

What are the last four digits of your phone number?

(Note: This information will be kept confidential and is non-personally identifiable information. It will be used only for the purpose of matching your survey with future surveys.)

354

3. Part B: Perceptions of Move On When Ready

This section asks questions about your perception of the Move On When Ready program and its implementation at your school site. There are no correct or incorrect answers. We are interested only in your frank opinions.

As a reminder, key components of the Move On When Ready model include implementation of board examination systems such as Cambridge International Examinations or ACT QualityCore in ninth and tenth grades, and offering multiple educational options, including the Grand Canyon High School Diploma.

Directions: Please indicate your personal opinion about each statement by filling in the oval that best describes how you feel.

Please rate the following statements related to district context.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
The district supports Move On When Ready.	○	○	○	○	○
The district believes all students can meet high standards.	○	○	○	○	○
Financial, staff and material resources are allocated by the district to facilitate implementation of Move On When Ready.	○	○	○	○	○
The district is allowing my school site to make its own decisions in regard to how Move On When Ready is implemented.	○	○	○	○	○

4. Part B: Perceptions of Move On When Ready (Continued)

Please rate the following statements related to school capacity.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
Teachers have opportunities to provide input on how to implement Move On When Ready at my school.	○	○	○	○	○
I am developing mastery of the Board Examination System (Cambridge or ACT QualityCore).	○	○	○	○	○
Financial, staff and material resources are allocated to facilitate the implementation of Move On When Ready by my school.	○	○	○	○	○
I believe the Move On When Ready model is a good model for our school.	○	○	○	○	○
I am personally motivated to make the Move On When Ready model work in my classroom.	○	○	○	○	○
Our administrators believe the Move On When Ready model was a good choice for our school.	○	○	○	○	○

5. Part B: Perceptions of Move On When Ready (Continued)

355

Move On When Ready - School Survey October 2011

Please rate the following statements related to the selection process of Move On When Ready.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
I was involved in the adoption of the Move On When Ready model.	○	○	○	○	○
I have a voice in how the Move On When Ready model develops at my school.	○	○	○	○	○
I feel my opinion was incorporated into the decision of which Board Examination System (ACT QualityCore or Cambridge International Examinations) was chosen.	○	○	○	○	○
My school's vision, mission and goals are aligned with the Move On When Ready model.	○	○	○	○	○

6. Part B: Perceptions of Move On When Ready (Continued)

Please rate the following statements related to implementation of Move On When Ready and the related Board Examination Systems. (Part A)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
The Board Examination System (Cambridge or ACT QualityCore) course syllabus is consistently used.	○	○	○	○	○
Students are aware of the Board Examination System curriculum.	○	○	○	○	○
Students are aware of the option to qualify for a Grand Canyon High School Diploma.	○	○	○	○	○
All students in Grade 9 are enrolled in Board Examination System Courses in my department.	○	○	○	○	○
I have participated in Board Examination System training.	○	○	○	○	○

Please rate the following statements related to implementation of Move On When Ready and the related Board Examination Systems. (Part B)

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
The Move On When Ready model and related Board Examination Systems will assist students in meeting state performance standards.	○	○	○	○	○
Our students are ready for the Board Examination System.	○	○	○	○	○
The Move On When Ready model and related Board Examination Systems will assist students in being college ready.	○	○	○	○	○
The Move On When Ready model has increased student motivation toward learning.	○	○	○	○	○
My instructional delivery has changed by using the Board Examination System.	○	○	○	○	○

7. Part B: Perceptions of Move On When Ready (Continued)

Move On When Ready - School Survey October 2011

Please rate the following statements related to the Board Examination System design and level of support.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
The Board Examination System training was provided in a timely manner.	○	○	○	○	○
The Board Examination System training was useful.	○	○	○	○	○
On-going support is provided at my school by the Board Examination System provider.	○	○	○	○	○

8. Part B: Perceptions of Move On When Ready (Continued)

Please rate the following statements related to the Move On When Ready design and level of support.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
I feel informed about the Move On When Ready model.	○	○	○	○	○
I understand the Move On When Ready model.	○	○	○	○	○
I see value in the Move On When Ready model over current practices.	○	○	○	○	○
I understand how the Move On When Ready model is supposed to work to improve student learning.	○	○	○	○	○
I believe the Move On When Ready model will help me become a better teacher.	○	○	○	○	○
The Move On When Ready model is worth keeping at my school.	○	○	○	○	○

9. Educator Efficacy Scale (Short Form)*

A number of statements about organizations, people, and teaching are presented below. The purpose is to gather information regarding the actual attitudes of educators concerning these statements. There are no correct or incorrect answers. We are interested only in your frank opinions.

Directions: Please indicate your personal opinion about each statement by filling in the oval that best describes how you feel.

*From Hoy, W.K. & Woolfolk, A.E. (1993). Teachers' sense of efficacy and the organizational health of schools. The Elementary School Journal 93, 356-372.

Page 6

357

Move On When Ready - School Survey October 2011

Please rate the following statements.

	Strongly agree	Moderately agree	Agree slightly more than disagree	Disagree slightly more than agree	Moderately Disagree	Strongly Disagree
The amount a student can learn is primarily related to family background.	○	○	○	○	○	○
If students aren't disciplined at home, they aren't likely to accept any discipline.	○	○	○	○	○	○
When I really try, I can get through to most difficult students.	○	○	○	○	○	○
A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.	○	○	○	○	○	○
If parents would do more for their children, I could do more.	○	○	○	○	○	○
If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.	○	○	○	○	○	○
If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.	○	○	○	○	○	○
If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	○	○	○	○	○	○
If I really try hard, I can get through to even the most difficult or unmotivated students.	○	○	○	○	○	○
When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment.	○	○	○	○	○	○

10. Additional Feedback

This section is intended to provide you with an opportunity to share any additional thoughts you have relative to your perceptions of Move On When Ready and its implementation at your school.

Directions: Please share any additional feedback you have in the open response box below. Your response is optional. All feedback will remain confidential.

Additional Feedback (Optional)

11. Thank You!

Thank you for participating in this survey. Your responses will help to inform the Center for the Future of Arizona's work with schools planning to participate in Move On When Ready.

358

APPENDIX I

OBSERVATION PROTOCOL – MOWR LEARNING COLLABORATIVE

AND DESIGN TEAM MEETINGS

Purpose of the Observation:

Date:

Location:

Start and Stop Time:

Researcher Role:

Setting:

Attendees:

[During the meeting, take running notes and make specific records of whether the items below are discussed]	
Extent of Implementation: *(Research Question 1)*	
• Move On When Ready	
• Cambridge International Examinations	
• Act QualityCore	
Implementation Factors: *(Research Question 2)*	
• School site leadership	
• Teacher buy-in	
• District support	
• Professional development	
• Resources (time, money, personnel, etc)	
• Reform design/design team	
• Additional factors	
Role of the Center for the Future of Arizona in influencing the implementation process of MOWR: *(Research Question 3)*	

APPENDIX J

TEACHER INTERVIEW PROTOCOL

TEACHER INTERVIEW PROTOCOL

Introduction and Purpose (1 minute)

Hello. My name is _____. Thank you for taking time to talk with me today.

The reason I'm here today is to get your opinions about the initial implementation of Move On When Ready in your school.

The Center for the Future of Arizona, a nonprofit organization located in Phoenix, was selected by the Arizona State Board of Education to manage the Move On When Ready initiative and to work with schools that choose to participate. Key components of the Move On When Ready model include implementation of board examination systems such as Cambridge International Examinations or ACT QualityCore in ninth and tenth grades, and offering multiple educational options which include the Grand Canyon High School Diploma approved by the Arizona Legislature in 2010.

I'm going to lead our discussion today. I am not here to convince you of anything or try to sway your opinion. My job is just to ask you questions. We'll be here for about 30 minutes and I will be recording this conversation. Are you comfortable with this?

Background

1. Tell me about your current position and how long you have worked at this school.

2. What is your personal involvement with the Move On When Ready model?

Extent of Implementation of the Move On When Ready (research question 1)

1. In your own words, how would you describe Move On When Ready?
2. How is your school implementing Move On When Ready? What steps is the school taking?

3. What will Move On When Ready look like at your school once it is fully implemented? Please describe.

4. What concerns or questions do you have in regard to Move On When Ready?

Factors Contributing to Implementation of Move On When Ready (research question 2)

1. How and when did the school first get involved with Move On When Ready?

2. In your own words, what is the goal of implementing Move On When Ready at your school?

3. Why has the school decided to implement the Move On When Ready model?

4. What role has the district [or charter network] played in regard to Move On When Ready at your school site?

5. How has school site leadership contributed or not contributed to the initial implementation of Move On When Ready at your school?

6. What role have the teachers played with the initial implementation of Move On When Ready at your school site? Do the teachers support the Move On When Ready model? Please explain.

Center for the Future of Arizona Facilitation in Implementation of Move On When Ready (research question 3)

1. How would you describe the role of the Center for the Future of Arizona in the implementation of Move On When Ready at your school and or district?

2. What could or should be done by Center for the Future of Arizona to make implementation of Move On When Ready more successful here?

Closure

1. Is there anything else we have not talked about that you think I should know?

APPENDIX K

ADMINISTRATOR INTERVIEW PROTOCOL

ADMINISTRATIVE INTERVIEW PROTOCOL - PRINCIPAL

Introduction and Purpose (1 minute)

Hello. My name is _____. Thank you for taking time to talk with me today.

The reason I'm here today is to get your opinions about the initial implementation of Move On When Ready in your school.

The Center for the Future of Arizona, a nonprofit organization located in Phoenix, was selected by the Arizona State Board of Education to manage the Move On When Ready initiative and to work with schools that choose to participate. Key components of the Move On When Ready model include implementation of board examination systems such as Cambridge International Examinations or ACT QualityCore in ninth and tenth grades, and offering multiple educational options which include the Grand Canyon High School Diploma approved by the Arizona Legislature in 2010.

I'm going to lead our discussion today. I am not here to convince you of anything or try to sway your opinion. My job is just to ask you questions. We'll be here for about 30 minutes and I will be recording this conversation. Are you comfortable with this?

Background

3. Tell me about your current position and how long you have worked at this school and district [or charter network].

4. What is your personal involvement with the Move On When Ready model?

Extent of Implementation of the Move On When Ready (research question 1)

5. In your own words, how would you describe Move On When Ready?

6. How is your school implementing Move On When Ready? What steps is the school taking?

7. What will Move On When Ready look like at your school once it is fully implemented? Please describe.

8. What concerns or questions do you have in regard to Move On When Ready?

Factors Contributing to Implementation of Move On When Ready (research question 2)

7. How and when did the school first get involved with Move On When Ready?

8. In your own words, what is the goal of implementing Move On When Ready at your school?

9. Why has the school decided to implement the Move On When Ready model?

10. What role has the district played in regard to Move On When Ready at your school site?

11. How has school site leadership contributed or not contributed to the initial implementation of Move On When Ready at your school?

12. What role have the teachers played with the initial implementation of Move On When Ready at your school site? Do the teachers support the Move On When Ready model? Please explain.

Center for the Future of Arizona Facilitation in Implementation of Move On When Ready (research question 3)

3. How would you describe the role of the Center for the Future of Arizona in the implementation of Move On When Ready at your school and or district?

4. What could or should be done by Center for the Future of Arizona to make implementation of Move On When Ready more successful here?

Closure

2. Is there anything else we have not talked about that you think I should know?

APPENDIX L

FOCUS GROUP PROTOCOL - NONSCHOOL MOWR ACTORS

FOCUS GROUP PROTOCOL - NONSCHOOL MOVE ON WHEN READY ACTORS

Introduction and Purpose (1 minute)

Hello. My name is _____. Thank you for taking time to talk with me today.

The reason we're here today is to get your opinions about the initial implementation of Move On When Ready in early adopter school sites in Arizona.

I'm going to lead our discussion today. I am not here to convince you of anything or try to sway your opinion. My job is just to ask you questions and then encourage and moderate our discussion. We'll be here for about an hour and a half. I will be recording this conversation. Is everyone comfortable with that?

[Note: Consent forms will already be signed to participate in the focus group.]

Ground Rules (2 minutes)

I'd like to begin by going over some ground rules that will help to facilitate our conversation.

- This will be an open discussion . . . feel free to comment on each other's remarks.
- There are no "wrong answers," just different opinions. Say what is true for you, even if you're the only one who feels that way. Don't let the group sway you. But if you do change your mind, just let me know.
- Everyone doesn't have to answer every single question, but I would like for everyone to participate at some point during the conversation so that I can ensure your perspective is included.
- And, just as a reminder, please talk one at time.

Introduction of participants (10 minutes)

While I believe everyone knows each other, before we start talking about Move On When Ready, it would be helpful to me if we just went around and briefly introduce ourselves. Please tell me:

1. Your name
2. Your current professional role and how long you have been in this role

3. Your personal involvement with the Move On When Ready model

Questions (50 minutes)

1. From your perspective, to what extent and in what ways are Arizona schools implementing the Move On When Ready model at this point in time?

2. How would you describe the role of the Center for the Future of Arizona in the implementation process of Move On When Ready at the local school level?

3. From your perspective, what factors have <u>promoted or enhanced</u> initial implementation of Move On When Ready at the local school level?

4. What factors have <u>hindered</u> the initial implementation of Move On When Ready at the local school level?

Closing question (15 minutes)

1. In your opinion, what are the three most important things that the Center for the Future of Arizona did to facilitate initial implementation of Move On When Ready?

Closing (2 minutes)

Thank you for taking the time to talk with me today. I appreciate your open and candid comments.

APPENDIX M

START LIST OF CODES

Extent of Implementation	EI	1.1
EI: Whole-School	EI-WHL	1.1
EI: Partial Selective	EI-PAR/SEL	1.1
EI: Partial Non Selective	EI-PAR/NON	1.1
EI: BES Teacher Professional Development	EI-BTPD	1.1
EI: BES Curriculum	EI-BCURR	1.1
EI: BES Assessments	EI-BASS	1.1
EI: Grand Canyon High School Diploma	EI-GCD	1.1
EI: Student Supports	EI-SSPT	1.1
EI: Multiple Pathways	EI-MPATH	1.1
Site Process and Change	SP	1.1
SP: Event Chronology – Official Version	SP-CHRON/PUB	1.1
SP: Event Chronology – Unofficial Version	SP-CHRON/PRIV	1.1
SP: Initial User Experience	SP-START	1.1
SP: Changes in Reform	SP-RMOD	1.1
SP: Implementation Problems	SP-PROBS	1.1
SP: Critical Events	SP-CRIT	1.1
SP: Effects on Organizational Practice	SP-ORG/PRAC	1.1
SP: Effects on Organizational Climate	SP-ORG/CLIM	1.1
SP: Effects on Classroom Practice	SP-CLASS	1.1
SP: Effects on Student Supports	SP-SSPT	1.1
District Context	DC	1.2
DC: Leadership Stability	DC-LDRSTAB	1.2
DC: Leadership Support of the Reform	DC-LDRSPT	1.2
DC: Resources	DC-RESRC	1.2
DC: Policies	DC-POL	1.2
School Context	SC	1.2
SC: Demographics	SC-DEM	1.2
SC: Size	SC-SZE	1.2
SC: Type	SC-TYP	1.2
SC: Level	SC-LVL	1.2
Capacity of School	CS	1.2
CS: Other reforms	CS-OREF	1.2
CS: Teacher Experience	CS-TEXP	1.2
CS: Teacher Perception of Students	CS-TPERPS	1.2
CS: Past Success with Change	CS-PCHNG	1.2
CS: Student Mobility	CS-SMOB	1.2
CS: Principal Leadership	CS-PLDR	1.2

Adoption Process	AP	1.2
AP: Fit with School Needs	AP-FIT	1.2
AP: BES Choice	AP-BCHC	1.2
AP: Teacher Support	AP-TSPRT	1.2
AP: Event Chronology – Official Version	AP-CHRON/PUB	1.2
AP: Event Chronology – Unofficial Version	SP-CHRON/PRIV	1.2
AP: Motives	SP-MOT	1.2
AP: Readiness	SP-REDI	1.2
Reform Design and Assistance	RD	1.2
RD: Objectives	RD-OBJ	1.2
RD: Complexity	RD-CPLEX	1.2
RD: Clear Communication	RD-COMM	1.2
RD: Assistance – Materials	RD-ASST/MAT	1.2
RD: Assistance – Time	RD-ASST/TM	1.2
RD: Assistance – Staff	RD-ASST/STF	1.2
RD: Professional Development	RD-PD	1.2
Other Implementation Factors	OF	1.2
OF: Policy and Accountability Environment at State or Federal Level	OF-POL/EXT	1.2
OF: Community Context	OF-CMNTY	1.2
OF: National Partner Organization	OF-NORG	1.2
OF: Philanthropic Support	OF-PSPT	1.2
Role of Intermediary	RI	1.3
RI: Assistance Provided	RI-ASST	1.3
RI: Flexibility	RI-FLEX	1.3
RI: Knowledge of Reform	RI-KWL	1.3
RI: Monitoring and Evaluation	RI-MON	1.3
RI: Supportive Structures	RI-STRC	1.3
RI: Communication	RI-COMM	1.3
RI: Intervention	RI-INT	1.3
RI: Positionality Working with Schools and Nonschool System Actors	RI-POS	1.3
RI: Expertise	RI-EXP	1.3

APPENDIX N

SKEW CALCULATION FOR EACH SCALE ON THE PRE AND POST

MOWR SURVEY

Skew Calculation for Each Scale on the Pre and Post MOWR Survey

Scale	Pre Survey		Post Survey	
	N	Skew	N	Skew
District Context	71	.076	67	-.219
School Capacity	69	.221	67	.058
Selection Process	69	-.513	66	-.663
MOWR and BES Implementation	67	.178	63	-.392
BES Design	67	.173	62	-.344
MOWR Design	66	-.052	63	.451
Teaching Efficacy	67	-.417	61	-.418
Personal Efficacy	67	1.181	61	.793

APPENDIX O

LETTER TO PARTICIPANTS

From Policy to Practice:
Implementing "Move On When Ready" at the Local Level in Arizona

July 25, 2011

Dear School Faculty or Staff Member:

I am the Director of Education Strategy and Innovation at the Center for the Future of Arizona and a doctoral student under the direction of Dr. Oscar Jimenez-Castellanos in the Mary Lou Fulton Teachers College at Arizona State University. I am conducting a research study to understand what promotes or hinders the implementation of the Move On When Ready policy in Arizona schools with the overall goal of more effectively assisting schools in their implementation of this new reform model.

I am inviting your participation in this study, which will involve participating in normally scheduled meetings related to your school's participation in implementing the Move On When Ready strategy. You may also be invited to participate in an interview which will last approximately 30 minutes. You have the right not to answer any questions, and to stop participation at any time. Your responses will be reported through a project-level research report and will not include any identifying information.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty.

The possible benefits of your participation include:
- Broader understanding of the implementation of education policy in schools
- Enhanced implementation of the Move On When Ready policy in Arizona schools
- Improvements to future cycles of planning and implementation of Move On When Ready in Arizona schools
- Improvements to state policy related to Move On When Ready

There are no foreseeable risks or discomforts to your participation.

Your responses during any observed meetings or interviews will be kept confidential. I would like to audiotape group meetings and interviews. You will not be recorded, unless you give permission. If you give permission to be taped, you have the right to ask for the recording to be stopped. Any recorded meetings

or interviews will be transcribed using Microsoft Word. The transcripts will then be stored electronically as word processing files on a password protected computer. They will be printed out in hard copy and stored in a notebook binder within a locked file cabinet. The electronic files will be permanently deleted from the password protected computer following the completion of the study. The hard copy documents will be shredded following the completion of the study.

The results of the research study may be used in reports, presentations, or publications but your name will never be used.

If you have any questions concerning the research study, please contact the researchers at: Amanda.M.Burke@asu.edu or jimenezcastellanos@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Please let me know if you agree to participate in the study.

Please let me know if you agree to be taped.

APPENDIX P

IRB APPROVAL LETTER

To: Oscar Jimenez-Castellanos

From: Mark Roosa, Chair
                   Soc Beh IRB

Date: 07/20/2011

Committee Action: **Exemption Granted**

IRB Action Date: 07/20/2011

IRB Protocol #:   1107006607

Study Title: From Policy to Practice: Implementing "Move On When Ready" at the Local Level in Arizona

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(1) (2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.   It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.