

# Indicators of teaching effectiveness

In order to measure teaching effectiveness of completers, a case study was conducted during the current academic year 2018-19. It measured the effectiveness of initial program completers of 2017-18, who are currently employed in P-12 schools in Qatar.

The case study did not only measure teaching effectiveness, it also measured completers' satisfaction with the College of Education programs and employers' satisfaction with completers' teaching effectiveness. Here, only data relating to teaching effectiveness are reported. Below is a description of the case study design and results.

The present case study was aimed to investigate the impact of teacher preparation program at College of Education by evaluating completers' performance. The study addresses the following research question relating to teaching effectiveness:

In which ways do completers demonstrate their abilities to apply the professional knowledge, skills and dispositions that their preparation program experiences were aimed to achieve?

## Methodology

### Participants

Participants of the case study include graduate teachers who completed the program study in 2017-2018, and their employers (administrators, vice principals, subject coordinators who are also supervisors and mentors of new teachers). All participants in this study were female, mainly because 95% of the students in QU-CED are female, and we only traced the employment situation of female students.

### Research design

An explanatory mixed-method research was employed for data generation (Creswell & Clark, 2017). Two phases and sources of data were included – firstly a questionnaire survey was sent to all 70 public schools in Qatar which employed QU-CED program completers of 2017-18. Secondly, six case studies were conducted for data including individual interviews with six teacher graduates and their subject coordinators, and observation data set including pre and post observation conferences, class room observation rating sheet, and documents such as lesson plans, teaching materials and students' performance. In this section of the report, only results on teacher effectiveness collected from classroom observations and interviews are presented.

### Data Sources

Six program completers volunteers to participate in the case study conducted between late November 2018 to first week of February 2019. Each program completer serves as a case. Each case study includes the following data sources presented in the table below:

Table 1. Data sources

	Participants	Data sources	Procedures
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Qualitative data with case studies	<ul style="list-style-type: none"> <li>Six program completers 2 working in early childhood center, 4 working in Qatari governmental schools</li> <li>School administrators</li> </ul>	Observation – 3 occasions of each program completer with 2 observers each time, in total 6 sets of observation data for each completer.	Observation method in this study includes a set of data sources including lesson plans, pre-conference, classroom observation, and post-conferences) Observation data was generated late November 2018 – first week of February 2019.
			Each occasion includes the following steps: <ul style="list-style-type: none"> <li>Pre-conference: an informal talk with the program completer to have a brief impression of her/his work.</li> <li>Documents including lesson plans and other relevant materials are obtained.</li> <li>Classroom observations are conducted with the evaluation sheet</li> <li>Reviewers’ observation notes</li> <li>Post-conference: an informal talk communicating with the program completer concerning the feedbacks and advice on improvement</li> </ul>
			During the following occasion, the reviewers emphasize and discuss the improvement of the completer. In total, three loops of the reflection for improvement are included in the observation set in order to observe the completer’s performance and learning abilities for improvement.
		Interviews	Interview with 6 school administrators
			Interview with six program completers

Two - three occasions of classroom observation of each program completer, each occasion includes pre and post conferences, classroom observation rating sheet, and documents including lesson plans, teaching materials and student performance. In the development of the classroom observation rating sheet, the following steps were followed:

- 1) Internal review was conducted several rounds among the research team (four team members are experts with high familiarity with the programs).
- 2) Expert validation was conducted by other experts who are seniors working in the programs for 10-20 years. Minor revisions were made accordingly regarding the phrasing of items including item 1, 2, 6, 8 and 9.
- 3) Another expert validation was conducted by statistical experts to review the rate and scale of the questionnaire design. Three rounds discussed led to revision on the scales before a final agreement of current version was reached among the research team and the experts.
- 4) Translation into Arabic was firstly conducted by a language professional, and back-translation was used in order to examine validity and linguistic parallelism of the questionnaire (Cohen, Manion & Morrison, 2013). A few rounds translation back and forth

between English and Arabic were carried out before an agreement was reached by two others language experts.

- 5) Pilot study was carried out by four previous program completers who worked in public schools and three professional specialists who supervisor new teachers. One word in Arabic version was revised in item 2 and item 6 each accordingly to make the expression of the items more precise.

During classroom observations, raters were requested to evaluate the teacher's performance, indicating the extent to which *she/he demonstrated her/his ability* in the following aspects, and using the following four-point scale:

1 = "Has little knowledge about the concept/instructional practice"

2 = "Demonstrates fair knowledge and skills about the concept/instructional practice but lacks confidence in using it in class"

3 = "Demonstrates good knowledge and skills about the concept/instructional practice that allows students to use it in class"

4 = "Demonstrates wide knowledge and skill about the concept/instructional practice, and feels very confident in using it in class"

After the observation sessions, interviews with each program completers and their supervisors – subject coordinators were conducted. The pre and post observation conferences and interviews were conducted in the schools at the convenience of the participants. Each lasted 30-60 minutes. The interviews were conducted in Arabic, and audio-recorded before transcribing and translating to English for content analysis (Kvale & Brinkmann, 2009).

Pre- and post-classroom observation conference talk guidelines were as follows:

Pre-observation Conference:

1. How do you feel about the teaching job in general?
2. How do you prepare for lesson plans usually?
3. What might be some strategies you have used before that were effective?
4. How might your actions enhance student learning?
5. What are you hoping to accomplish with this lesson?
6. What might you see that will let you know you have reached your goal?

Post-observation Conference: Reflecting Conservation

1. How do you think the lesson went? How did you feel?
2. How do you compare the lesson you planned and the lesson you taught?
3. What are some of the things you did to make it go so well?
4. Which of your skills seemed most useful?
5. What learning(s) do you want to take with you to future lessons?
6. The reviewers provide feedbacks and advices for improvement.

**Data analysis**

Quantitative data analysis was based on computed descriptive statistics in order to analyze the responses of the panelists. We computed means and standard deviations for each item of the questionnaires and observation rating sheet.

For the qualitative data, an inductive content analysis technique was conducted to reveal individual responses by defining patterns of communication and inferring meanings via linguistic features in the given contexts (Cohen, Manion, & Morrison, 2013). Through thematic analysis focusing on meaning condensation, an outline of the meanings expressed by the interviewees were coded and categorized into shorter formulations (Kvale & Brinkmann, 2009). Then initial findings were used to triangulate the survey results and further explore participants' elaboration of patterns (Kvale & Brinkmann, 2009). In the process of analysis, the interpretation did not only reply on the described events as facts, but more importantly participants' social discourse that lies behind their words were taken into the consideration of interpretation and patterns identification (Cohen, Manion, & Morrison, 2013).

### Quantitative results

Results of classroom observation rating sheet are presented in Table 2. The mean of each item by each observer was calculated among different occasions.

Table 2. Results of classroom observation rating

Item	Mean by observation occasions		
	Observer 1	Observer 2	Observer 3
Item 1	3.7	3.7	3.2
Item 2	3.4	3.4	3.4
Item 3	3.9	3.9	3.0
Item 4	4.0	4.0	3.6
Item 5	4.0	3.8	3.0
Item 6	3.1	3.1	3.2
Item 7	3.7	3.7	3.6
Item 8	3.3	3.3	3.2

Table 3. Classroom observation results

		Mean	SD
Item 1	The teacher was able to provide a variety of opportunities that support student learning and development.	3.59	0.57
Item 2	The teacher was able to use knowledge of school, family, cultural and community factors that influence the quality of education for all students.	3.41	0.50

Item 3	The teacher was able to establish a classroom environment of respect and support that provides a culture for learning.	3.76	0.51
Item 4	The teacher had sufficient content of my professional field.	3.93	0.26
Item 5	The teacher was able to motivate learners and engage them in critical thinking by teaching a variety of perspectives and concepts.	3.76	0.44
Item 6	The teacher was able to engage in assessment activities and use the data for instructional decision making and student improvement.	3.10	0.41
Item 7	The teacher was able to plan integrated and coherent instruction to meet the learning needs of all students.	3.66	0.48
Item 8	The teacher was able to provide student-centered instruction that is characterized by clarity, variety, and flexibility.	3.31	0.47

Table 4-7 report the results of inter-rater reliability tests. Coefficient reliability among judges 0.678, suggesting a moderate level.

Table 4. Reliability test of classroom observation rating

Reliability of Observation (Correlation Coefficient)			
	<i>Observer1</i>	<i>Observer2</i>	<i>Observer 3</i>
Observer1	1		
Observer2	0.99	1	
Observer 3	-0.03	0.0597	1

Table 5. Reliability test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.678	.626	3

Table 6. Reliability test among observers

### Item Statistics

	Mean	Std. Deviation	N
OB1	3.64	.338	8
OB2	3.61	.314	8
OB3	3.28	.238	8

Table 7. Intraclass Correlation Coefficient

	Intraclass Correlation Coefficient						
	Intraclass Correlation <sup>b</sup>	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.412 <sup>a</sup>	-.028	.816	3.105	7	14	.034
Average Measures	.678	-.089	.930	3.105	7	14	.034

The means for all items on the classroom observation sheet (Table 2) were higher than 3. The results indicate that the six participants in the case study demonstrate good knowledge and skills about the concept/instructional practice that allows them to use it in class.

### Qualitative data results

Multiple sources of qualitative data were generated in the six case studies, including six interviews with the program completers, six interviews with their supervisors, pre and post observation conferences, and documents review of lesson plans, teaching materials and student performance. Outcomes of the cross-cases integrating multiple sources of data are reported following the following structure: 1) overall evaluation of the program completers regarding their professional knowledge, teaching skills and professional dispositions; 2) link between teaching performance and teacher preparation program; 3) missing points from teacher preparation program; 4) teaching learning through work.

#### 1. Overall evaluation of the program completers regarding their professional knowledge, teaching skills and professional dispositions

All the six program completers have confidently self-evaluated their readiness for working as a teacher in the aspects of professional knowledge, teaching skills and professional dispositions. Even more positive evaluation was provided by their supervisors, as they commented on the completers respectively:

Supervisor of Case 3: "I don't see her as a graduate. I feel like she has more experience than a new graduate. Because I work with her. She exceeds the levels. I attended some of her classes and I liked many things she did."

Supervisor of Case 4: “She is excellent in terms of knowledge. She loves the subject that she’s teaching, math. And it shows that she is well informed in the field. So you get a sense that in terms of knowledge and skills, she’s excellent. And her understanding of the subject. In terms of her professionalism, what I like about her is that she came here with the mentality of being a teacher and she accepts her job with all the pressure that comes with it. I want to learn responsibility. And yes, she’s proven herself. The school has been through a few situations. She was charge of two curriculums. Now she’s currently in charge of three curriculums. If it were another person, they would have probably rejected that. she was so accepting. We’re lucky to have her.”

Supervisor of Case 5: “She has developed after taking a diploma in primary education. She used to train with us in standards and strategies on a small scale. On the scale of the department. She used to take workshops about strategies and their implementation. We used to follow the use of strategies, but when she took the diploma, I felt that there was an improvement. Because now she developed a commitment. She has to implement to attain a diploma. So that has become her method that she follows.”

Supervisor of Case 6: “She is excellent. She has new strategies, especially in technology. She knows a lot about technological programs. She is well developed in her strategies. Her language skills are excellent in class and while asking students questions.”

## 2. Link between teaching performance and teacher preparation program

The interviewed program completers were in general satisfied with what they have learned from the teacher preparation program and could link the benefits from the program to their daily practice of teaching work. The mostly cited benefits from the program on their teaching work include theories that helped with conceptual understanding of the teaching and learning, a wide range of teaching strategies and skills for classroom management, and opportunities of Micro-teaching. As they expressed,

“I am glad I was in that program and it made a huge influence in me. It made me feel confident at work.... I am used to create new teaching strategies.... I can see I know quite a lot of strategies that even experienced teachers do not know.” (Case 3)

“It (the university program) have a great influence in the sense that I experienced the situations which I now experience with my students. The experience of managing a class during the internship was highly beneficial and my university instructors were role models for me at work.” (Case 4)

“I benefited a lot because, even during the diploma there was micro teaching which I learned a lot from and from the different strategies that I learned from the instructors there which I applied here practically.” (Case 5)

Similarly, all interviewed supervisors also attribute the satisfied performance of the program completers to the effectiveness of the teacher preparation program. In particular, the supervisors compared teachers graduated from College of Education, Qatar University and teachers from other backgrounds, as cited by them,

“There’s a difference. She (QU-CED program completer) knows the society, she knows the students and how to deal with them. Also I see a big difference in terms of teaching methods.” (Supervisor of Case 3)

“I’m fortunate to have them. Their batch is very good, really. Not just me, but my entire department all say the same thing.” (Supervisor of Case 4)

“She’s not originally specialized, but this diploma in primary education was very beneficial for her. You help your students to develop a depth in knowledge in the subject.” (Supervisor of Case 5)

“A graduate from the College of Education knows the educational objectives, she knows about teaching students. That’s in contrary to students coming from an Accounting background or any other background, they take a lot of our efforts because we teach them how to work with students, about class management, how to formulate objectives of a lesson plan, but a graduate from the College of Education is different. She’s already prepared. She knows how to prepare a lesson plan. She knows how to formulate questions and objectives. She’s trained to use different strategies. That’s in contrary to those who come to work without relevant educational background.” (Supervisor of Case 6)

Nevertheless, the supervisor of Case 3 pointed out that the quality of teacher was also related to individual factors such as attributes such as responsibility and passion, as she said,

“being a teacher isn’t about being a graduate from the college of education or other colleges. I believe that delivering information is a gift that’s within a person. Some people have this gift, some don’t. Some people love their job, some don’t. Some focus on their students, some just come in to do their job and leave. So I feel like it also depends on the individual.”

### 3. Missing points from teacher preparation program

Two major missing points from their teaching preparation program were identified by interviewed program completers. Two teachers mentioned that despite their confidence in professional knowledge and skills, they sometimes feel insecure concerning how to handle specific real-life situations, as one of them said,

“I know the teaching strategies and I know when to use each strategy. But my problem is that sometimes I don’t know what to do in certain situations. For example, I took the course Child Development but now I deal with children who are 3 years old. I cannot give them academic stuff because they should only learn some letters and pronunciation. The strategies that I learned are not very helpful in this situation. ” (Case 2)

Another program completer mentioned her lack of preparation for handling individual differences in a classroom setting,

“I should know how to deal with individual differences in students. I shouldn’t give them one question and force each and every student to answer that question. If a student is not a high performer, I will give him a question that’s suitable to his level to avoid making him feel discouraged.” (Case 3)

This aspect was shared by another completer, who nevertheless also addressed a process of learning how to develop coping strategies,

“A lot of things I wasn’t aware of before I joined the diploma program. For instance. Individual differences. After having gone through the diploma program, I learned a lot more about individual differences. And I currently use treatment plans in the 4<sup>th</sup> grade, and as an effect, my class performs best in mathematics. Last year, the coordinator gave me a certificate of excellence for teachers because I had the top performing students.” (case 5)

This improvement was confirmed through the interview with her supervisor, who highly evaluated the treatment plan the teacher developed and implemented in her class to address individual differences which helped in particular the low-performing students.

#### 4. Teacher learning

All the interviewed program completers expressed their positive attitudes to sustain learning while working as a teacher, in particular, regarding applying what has been learned in the university programs to real-life practice. As one teacher said,

“We must continue to learn new things. Although we learned a lot from the university program, it wasn’t enough for me. I still have to learn some things.” (Case 1)

Further this aspect, two completers also referred to their reflection on real life experiences, as one said,

“What I learned from the program is meaningful now from the work experience. The teaching experience make me learn in a more comprehensive manner.” (Case 4)

In reaction to the missing aspect, completers mentioned their continuing learning based on issues from real life problem, as one said, “when I face situations where I don’t know what to do, I am now reading books to search for answers, for example children psychology...” (case 2).

This aspect was also mentioned in the interviews with the supervisors. Four supervisors (case 3, 4, 5, 6) mentioned that the program completers they supervised showed positive attitude and willingness to learn new things in a school environment. Eagerness to learn is highly appreciated as a good value by these teachers in their work place. As supervisor of Case 4 said, “she is interested in learning new things, and come up with new ideas and activities...”. Supervisor of Case 3 also noted, “What I like about her is that she’s the kind of person that listens. And the person who listens learns. She’s determined. Ya, she has her own mentality/personality, but she listens from those who she believes she will learn from.

To conclude, qualitative data revealed that teaching performance and its impacts on student learning gains with a variety of evidence provided by program completers and their supervisors. This also suggests diversity in how completers/teachers understand outcome, effectiveness and values of teaching in relation to student learning.

#### **Limitations of the case study**

Although the case study provided evidence for program impact through the perspectives of program completers, employers and observation of their practices, the results remain provisional due to a few limitations. First, further validation is needed test the developed instruments. Second, a larger population of participants may provide more variation of the practices. In addition, additional perspectives, for example, parents’ feedbacks and viewpoints of professional development facilitators may potentially benefit the results of the study. Furthermore, better preparation and discussion among reviewers and observers for classroom observation rating may further improve inter-rater reliability.

