

# Pedagogy Leadership during COVID-19 Pandemic: New Kinds of Practice

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## Abstract

This research study aims to identify the factors that influence educational leadership pedagogy during the COVID-19 pandemic. The study took place in the girls' section of an international school in Dammam city, Saudi Arabia. Through the application of a mixed research approach of interviews with four lead teachers and a survey of 72 teachers, a theoretical model that integrates eight factors of educational leadership pedagogy was developed. The model integrates best practices to sustain school effectiveness and students' performance. The model was developed through thematic analysis and validated by Confirmatory Factor Analysis (CFA). The findings revealed several interventions influencing educational leadership and students' performance.

## Keywords

Educational Leadership, Pedagogy, COVID-19 Pandemic, School Effectiveness

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## 1. Introduction

The COVID-19 pandemic has changed the way schools operate worldwide. As a result, many countries have moved to distance learning. Saudi Arabia was one of the first counties in the world to respond to the pandemic through lockdowns and conversion to virtual learning (Melibari, 2020). This shift created challenges and required actions to overcome. One of these challenges is maintaining schools' effectiveness and students' performance in the new online learning environment. As such, this study investigates the factors that influence educational leadership pedagogy in the girls' section of an international school in Dammam city, Saudi Arabia. The sudden shift to distance learning has disturbed the school's daily activities and created confusion and debate among teachers on

how to best address the status quo and maintain a quality education for children. In order to maintain its performance, the school deployed three main digital platforms: “Savvas”, “Skyward” and “Microsoft Teams”. “Savvas” is formally known as “Person” and is used to access online curriculum materials. Savvas’s online system provides interactive curriculum materials and resources that support students’ and teachers’ engagement (Paramus, 2020). Skyward is another online learning platform that helps students submit their daily homework and allows parents to receive feedback on their child’s performance. The system enables teachers to grade assignments and take class attendance virtually (Stevens, 2015). The school also deployed “Microsoft Teams” to conduct virtual classes. The system works as a communication application and a hub that integrates online chats, meetings and file sharing in one stop shop (Martin & Tapp, 2019).

The school uses these systems on daily basis to conduct online classes. The classes start at 7:30 AM and end at 2:30 PM from Sunday to Thursday. Similar to regular classes prior to COVID-19, the distance learning classes included math, social studies, science and language art in addition to Arabic, Physical Education (PE) and Islamic studies. The online classes enabled students’ participation, open dialogue and discussion. Despite all of these technologies, teachers were challenged to convey the taught ideas, communicate clearly and ensure students’ understanding. This is exacerbated by teachers’ need to improve their technical competencies to deal with online technology and manage the day-to-day classes. Teachers are also faced with technical issues such as system glitches, slow internet connection and logouts. Teachers are not sure how to measure students’ understanding and engagement in the class and try their best to maintain a good relationship with them. There are no school procedures in place to govern the process of online teaching.

This research study focuses on identifying the factors that influence educational leadership pedagogy during the COVID-19 pandemic and exploring the best practices that help in sustaining the effectiveness of classrooms. A framework is developed to guide the school strategies to produce more meaningful insight into what influence the concept of educational leadership during unpredictable circumstance such as the pandemic. From theoretical perspectives, there is an ambiguity in the relationship between pedagogy and educational leadership that requires more exploration (Burdick & Sandlin, 2013). Three questions are identified:

- *What are the factors that influence classroom pedagogy leadership during the COVID-19 Pandemic?*
- *What are the best practices that can be placed in order to sustain effective classroom pedagogy leadership during the COVID-19 Pandemic?*
- *Can these factors be integrated with one research model?*

## 2. Literature Review

Pedagogy originates from the Greek word “paidagoge” which translates to “lead

the child". The definition establishes that leadership is the foundation for a successful pedagogy and therefore it has been viewed as an integral part of the teaching strategy. The teaching strategy defines teachers as leaders who support students' learning and development (Rosch & Anthony, 2012).

Despite the rich literature discussing the notion of "pedagogy" and how it enables learning, its link to educational leadership is still ambiguous (Burdick & Sandlin, 2013). For example, Kulinna et al. (2009) conducted a comprehensive analysis of pedagogy of physical education leadership. They studied 94 published journals from 1995-2004 covering 1819 research papers, including social science, curriculum development, and physical education. Kulinna et al. (2009) found that 65% of the literature refers educational leadership to teaching effectiveness, teaching practices, and teaching methods with minor association to the notion of pedagogy. Malcolm and Zukas (2001) stated that in order to understand the association between educational pedagogy and leadership, an understanding of the effectiveness of the teacher-student relationship has to be established. According to Eckert (2008), in the area of reading comprehension, 41% of university professors in the United States reported that students are not ready for university level while 15% of high school teachers reported similar findings. This significant variation in reporting reflects the vast difference in understanding of what constitutes an effective pedagogy of educational leadership. Goodman and Kuzmic (1997) interpret this vast difference as a natural phenomenon due to the complexity of the notion of pedagogy and its association to leadership in education. Pedagogy of educational leadership does not exist in vacuum but rather is influenced by several factors such as students' individual differences and the school environment.

There are two main principles of effective pedagogic leadership in schools according to Leithwood et al. (2010). The first principle is the teacher's ability to exercise influence and the second is maintaining a relationship with students. In a study involved 159 mathematics teachers, Almanthari et al. (2020) identified school, student, teacher and curriculum as potential barriers to learning during COVID-19 pandemic. These barriers require setting strategies to address them. In a global study on 30,383 university students from 62 countries, Aristovnik et al. (2020) found that technical support strategies offered by universities were the most effective in supporting students' performance during the COVID-19 lockdown. Alswilem (2019) studied the perception of Saudi high school English teachers attitude toward using information technology for teaching. She found that lack of teachers training, lack of technical infrastructure and lack of resources to support the online learning environment are critical factors that impacted the online teaching environment.

Varela and Fedynich (2020) highlighted the critical role leadership plays in mitigating school challenges during pandemic. They found that providing continuous support, prioritize topics in a curriculum and ensure well-being of students and staff are important factors in sustaining leadership pedagogy. Instruc-

tional leadership integration with technology is identified by [Byrom and Bingham \(2001\)](#) as the “single most important factor affecting schools’ successful integration of technology”. [McLeod \(2015\)](#) highlighted the need for integrated protocols to utilize the power of information technology for classroom learning. For this to be effective, teachers have to be given the required time and resources to develop their skills and competencies in using technology for learning. The rapid change in information technology may make it difficult to maintain a specific standard to follow for online teaching. Therefore, continuous development of teachers in the area of online education must be an integral part of school strategy to ensure effective students’ outcome. These strategies may include courses in facilitation, course design, course management and mentorship. According to [Martin et al. \(2019\)](#), knowledge of technology is an important aspect of online learning. Teachers who have more technical experience can develop better resources, materials and apply various technical tools to facilitate learning in online environment. [Kumar et al. \(2019\)](#) studied the factors that influence successful leadership pedagogy and found that what distinguished an expert from novice online teacher is the ability to technically develop relevant course materials that can be put into practice, use of multimedia to interact with students, enabling students to create digital content, encouraging continuous feedback from students and teachers ability to clearly explain the activity, technology and class room management.

[Marzano \(2003\)](#) pointed out that classroom management covers a wide range of activities such as taking attendance, enforcing compliance with rules and regulations as well as distribution of resources to students. As highlighted by [Stewart \(2008\)](#), many of the same features of the traditional classroom management practices also applied to the online learning environment with challenges that need to be addressed. For example, students’ feeling of isolation, complacency of attendance and obligation to rules and classroom procedures. Classroom management is considered to be the most difficult problem faced by teachers (Ibid.). However, there are common grounds for classroom rules and procedures which are applicable to the online learning environment such as general expectations for behavior, and disciplinary action which is considered one of the most debatable topics in the educational literature. In a meta-analysis study, [Stage and Quiroz \(1997\)](#) investigated the disciplinary action effect on student behaviour. They looked at more than 99 studies and 200 experimental comparisons on 5000 students and found that disciplinary intervention resulted in a less disruption in the classroom among 78% of the treated students. However, an effective teacher-student relationship is based on a balance between dominance and cooperation as pointed out by [Marzano \(2003\)](#) and clear communication is the key to achieve this balance.

Curriculum design is a topic that has not been given a lot of attention in the literature (Ibid.) due to the lack of translation of the theoretical research to practical classroom curriculum in addition to the association of student learning

with curriculum content. Marzano (2003) identified two important factors of curriculum design which are sequencing of content and pacing of content. Chi (2009) defined sequencing of curriculum content as the process of managing a learning route to help students achieve a learning objective. Sequencing of the content requires teachers to have the skills required to ensure students' engagement, interaction and exposure to complex problems in online learning environment. David et al. (2016) pointed out that online learning offers opportunities to improve the sequencing of curriculum content by utilizing the online learning platforms to personalize educational curriculum as per students' individual needs. They highlighted that personalized sequencing of content helps students engage and learn faster. Pacing of curriculum, on the other hand, has been identified as the factor that helps students achieve better performance as studied by Good et al. (1978). Pacing of content is influenced by several factors such as the complexity of the topic being studied, the instructional goals and the sequencing of materials. Marzano (2003) highlighted that there is a strong association between students acquired knowledge and the pacing necessary to learn a specific content. Teachers don't frequently apply pace of content in their lessons because they rely more on the textbooks content provided by the school (Ibid.).

### 3. Methodology

This study applies a combination of two research methods of qualitative interviews and quantitative questionnaire in a process referred to as "triangulations". Triangulations enable building-up on the strength of each paradigm while avoiding shortfalls.

The first applied method was structured interviews with four lead teachers working in the girls section of international school in Dammam city in Saudi Arabia. The girls section has 102 teachers and more than 1000 students. Before the interviews, each teacher consent was obtained and information sheets were given to provide more insight of the interview procedure. The information sheet had background information about the purpose of the study and its objectives. The information sheet describes to the participant what would they expect if she agreed to take part of the study. Moreover, the information sheet had a confidentiality disclaimer confirm identity and data protection. The information sheet explains the voluntary nature of the study and the right of participants to withdraw from participation at any time. Each participant was given a consent form to affirm that her data and rights are secured. The consent form assures that participants have taken time to go through the information sheet and that they have read and understood the objectives and aims of the research. During the interviews, the purpose and objectives of the study were explained in addition to how the data and information are collected and used in the research. Three questions were asked to each of the participants:

- *What are the factors that influence classroom pedagogy leadership during the*

#### *COVID-19 Pandemic?*

- *What are the best practices that can be placed in order to sustain effective classroom pedagogy leadership during the COVID-19 Pandemic?*
- *What is your view on the research framework?*

The second applied method was a survey questionnaire distributed among the 102 teachers of the girls section. The survey was developed after analyzing interviews' data. The survey was developed through Google Forms which is a web-based application to create, distribute and gather survey questionnaire. The questionnaire hyperlink was sent to all girls' section teachers via school email after the consent was obtained from the school principle who encouraged participation. The email explained the aim and objectives of the study and indicated that participation is voluntary. The survey started on December 11th 2021 and ended on January 11th 2022. The survey questionnaire consisted of ten questions out of which eight are five-point Likert ranging from "*strongly disagree*" (1) to "*strongly agree*" (5) addressing the research hypothesis while two questions obtained demographic variables.

#### **4. Data Analysis**

Two data analysis techniques were applied. The first was thematic analysis of the interview texts. Thematic analysis is a data analysis technique to capture patterns in collected data in order to find answers to a specific question (Cohen et al., 2000) and the following themes emerged in **Table 1**.

According to the lead teachers, the relationship with students' families is an important part of the classroom leadership as many families were impacted by the pandemic in some manner. In a study of e-inclusion in Italy during the COVID-19 pandemic, Parmigiani et al. (2020) reported that families played a significant role in enhancing their children performance by coaching their children, given them feedback and supporting them emotionally. Sharing of feedback and best practices was also another theme captured during the analysis. Sharing of teachers' information, experience and feedback is highlighted as a critical activity that enhances the online education process during the COVID-19 pandemic. Sharing of best practices provide a rich source for teachers to enhances and improve their teaching competencies. In a study conducted in the USA by Marshall et al. (2020), a total of 328 teachers (84% females) were surveyed. 92% of the surveyed teachers pointed out that they have never taught online and they have always assumed that their teaching will take place face to face. Other themes included teachers' competencies to teach online, student engagement, relationship with students, pacing of content, sequencing of content and application of technology. All of these factors were incorporated in a theoretical framework as illustrated in **Figure 1**.

The model represents a systematic process of identifying the factors that influence the educational leadership pedagogy and enhancing its practices. In order to test this model, a number of hypothesis were developed as follows:

**Table 1.** Thematic codes.

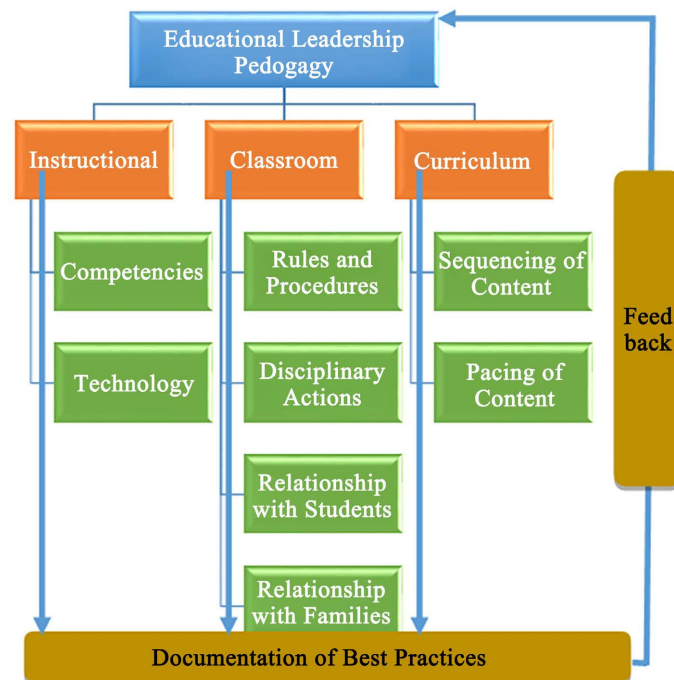
Key Theme	Thematic Code	Pillar	Frequency	Examples
Family-school relationship	Family-school relationship	Classroom Leadership	4	Participant-1: “ <i>leadership can't and shouldn't rely only within the boundaries of student -teacher relationship and interactions, but on the needs and circumstances of the families</i> ”. Participant-2: “ <i>emotional support available to those affected by the COVID-19 pandemic</i> ”. Participant-3: “ <i>I am an advocate of parent involvement</i> ”. Participant-4: “ <i>support of teachers, parents and students</i> ”.
Teacher Competencies	Competencies	Instructional Leadership	2	Participant-1: “ <i>teacher stability and emotional balance is another factor that has to be considered</i> ”. Participant-4: “ <i>adapting new methods of teaching</i> ”.
Sharing of Best Practices	Sharing of Best Practices	Classroom, Instructional and Curriculum Leadership	2	Participant-1: “ <i>sharing clear and concise information</i> ”. Participant-4: “ <i>group and collaborative “online learning”</i> ”. Participant-2: “ <i>the lack of resources for teaching online</i> ” and “ <i>access all available resources online</i> ”. Participant-3: “ <i>e-learning tools is important to improve teacher leadership skills</i> ”. Participant-4: “ <i>support of teachers, parents and students</i> ”.
Online teaching resources	Teaching Resources	Instructional Leadership	4	Participant-2: “ <i>the lack of resources for teaching online</i> ” and “ <i>access all available resources online</i> ”. Participant-3: “ <i>e-learning tools is important to improve teacher leadership skills</i> ”. Participant-4: “ <i>support of teachers, parents and students</i> ”.
Student and teacher absenteeism	Relationship with Students	Classroom Leadership	2	Participant-2: “ <i>student and teacher absenteeism</i> ”. Participant-4: “ <i>support of teachers, parents and students</i> ”.
Flexible curriculum	Pacing of Content	Curriculum Leadership	1	Participant-2: “ <i>being flexible with the curriculum</i> ”.
Student Engagement	Sequencing of Content	Curriculum Leadership	1	Participant-3: “ <i>student school engagement is in my opinion is important</i> ”.
Technology learning strategies	Technology	Instructional Leadership	2	Participant-3: “ <i>developing new and inclusive learning strategies are important to assist with limitations of virtual teaching</i> ”. Participant-4: “ <i>students' transition to online studies</i> ”. Participant-4: “ <i>Communication is the key</i> ”.
Feedback from data	Feedback and communication	Classroom, Instructional and Curriculum Leadership	1	Participant-4: “ <i>I would say that data analysis is one of the most important tools that leaders can utilize to make sure that they are working to sustain effective classroom pedagogy leadership</i> ”.

*H1: Instructional leadership pedagogy is not positively influenced by teachers' competencies.*

*H2: Instructional leadership pedagogy is not positively influenced by technology.*

*H3: Classroom leadership pedagogy is not positively influenced by rules and procedure.*





**Figure 1.** Research model.

*H4: Classroom leadership pedagogy is not positively influenced by disciplinary actions.*

*H5: Classroom leadership pedagogy is not positively influenced by relationship with students.*

*H6: Classroom leadership pedagogy is not positively influenced by relationship with families.*

*H7: Curriculum leadership pedagogy is not positively influenced by sequencing of content.*

*H8: Curriculum leadership pedagogy is not positively influenced by pacing of content.*

The survey questionnaire was distributed to the 102 girls' section teachers (all females) in the international school in Dammam city, Saudi Arabia. The survey was sent to each of the teachers via school email. The survey was run for a period of a month (December 11th 2021 to January 11th 2022) and a total of 72 completed surveys were received from the participants. The response rate represented 70.59% of the study population. The study questionnaire contained ten questions two of which are demographic while the remaining were linked to the research hypotheses. The questions are list in **Table 2**.

The sample consisted of 72 teachers out of which 25 teachers has less than 5 years of experience, 28 had 5 to 10 years of experience and 15 with more than 15 years of experience. On the other hand, 25 teachers are teaching classes from grade 1 to 3, 24 teachers are teaching grades between 4, 5 and 6, 13 teachers are teaching 7th, 8th and 9th grades and 10 teachers are teaching grades between 10th and 12<sup>th</sup> (**Table 3**).



**Table 2.** Survey questions.

Question Number	Description	Type
1	Years of Experience?	Demographic
2	Grades I am teaching?	Demographic
3	My teaching competency positively influences my instructional leadership?	Hypotheses Testing
4	Teaching technologies positively influence my instructional leadership?	Hypotheses Testing
5	Classroom rules and procedures positively influence my classroom leadership?	Hypotheses Testing
6	Classroom disciplinary actions positively influence my classroom leadership?	Hypotheses Testing
7	My relationship with students positively influences my classroom leadership?	Hypotheses Testing
8	My relationship with student's family positively influences my classroom leadership?	Hypotheses Testing
9	Sequencing of curriculum content positively influences my educational leadership role?	Hypotheses Testing
10	Pacing of curriculum content positively influence my educational leadership role?	Hypotheses Testing

**Table 3.** Sample characteristics.

Class	Years of Experience			Total
	Less than 5	5 - 10	More than 10	
1 - 3	16	5	4	25
4 - 6	11	12	1	24
7 - 9	2	7	4	13
10 - 12		4	6	10
<b>Total</b>	<b>29</b>	<b>28</b>	<b>15</b>	<b>72</b>

Teachers with more than 10 years of experience represented 21% of the respondents while teachers of less than 5 years of experience represented the majority of respondents with 40% and the remaining 39% represented teachers of experience between 5 to 10 years. Teachers with more than 10 years of experience are also lead teachers who have more responsibilities than non-lead teachers such as supervising other teachers, conducting meetings and reviewing schedules and activities which may explain their relative less response rate compared to other participants. The survey results data was coded into Statistical Package for the Social Sciences or SPSS which is a software used for statistical analysis. The coding process is done by converting the completed surveys answers into numerical values (**Table 4**).

**Table 4.** Survey instrument coding.

Question Number	Variable	SPSS Label	Survey Selection	Value
Q1	Demographic	Experience	Less than 5 years	1
			5 - 10 years	2
			More than 10 years	3
Q2	Demographic	Grade	Grades 1 - 3	1
			Grades 4 - 6	2
			Grades 7 - 9	3
			Grades 10 - 12	4
Q3	H1	Competency	Strongly Disagree	1
			Disagree	2
			Neutral	3
			Agree	4
			Strongly Agree	5
Q4	H2	Technologies	Strongly Disagree	1
			Disagree	2
			Neutral	3
			Agree	4
			Strongly Agree	5
Q5	H3	Rules/Procedures	Strongly Disagree	1
			Disagree	2
			Neutral	3
			Agree	4
			Strongly Agree	5
Q6	H4	Disciplinary Actions	Strongly Disagree	1
			Disagree	2
			Neutral	3
			Agree	4
			Strongly Agree	5
Q7	H5	Relationship with Students	Strongly Disagree	1
			Disagree	2
			Neutral	3
			Agree	4
			Strongly Agree	5
Q8	H6	Relationship with Families	Strongly Disagree	1
			Disagree	2
			Neutral	3
			Agree	4
			Strongly Agree	5

## Continued

			Strongly Disagree	1
			Disagree	2
Q9	H7	Sequencing of curriculum	Neutral	3
			Agree	4
			Strongly Agree	5
			Strongly Disagree	1
			Disagree	2
Q10	H8	Pacing of curriculum	Neutral	3
			Agree	4
			Strongly Agree	5

In order to determine the survey validity, a correlation test was conducted via SPSS. The validity test helps examine the integration of the research model variables by identifying the correlation coefficient value of each component (**Table 5**).

The survey reliability measures the consistency of the research instrument over a period of time. As such, if the survey is replicated several times, it would yield similar results. In order to test the reliability of the survey instrument, Cronbach's alpha test was run via SPSS. Using Cronbach's alpha test, the reliability analysis yielded a value of .803 for the ten main survey questions. This reliability value is within an acceptable range as pointed out by **Saunders et al. (2012) (Table 6)**.

According to **Suhr (2006)**, Confirmatory Factor Analysis (CFA) allows the use of a theory to statistically test it. Accordingly CFA is used to validate the proposed model and test the research hypothesis. The CFA applied in this research utilizes Structural Equation Modelling or SEM for testing. The SEM consists of two complementary methods which are the path model and the regression model. Multiple regression enables the prediction of a variable (dependent) through the values of more than one other variable (independent variable). SEM is an estimation method that utilizes regression modeling to discover relationships between variables. The path analysis is done through AMOS software that enables linking each of the observed variables to the corresponding non-observed variable of the research model. Accordingly, instructional leadership is a dependent on teachers' competency and technology. Curriculum leadership is dependent on sequencing and pacing of curriculum. Classroom leadership is dependent on rules and procedures, disciplinary action, the relationship between the teacher and students and their families. Consequently, educational leadership pedagogy depends on instructional, curriculum and classroom leadership. The path model is illustrated in **Figure 2**. An error term is assigned to each of the independent variable equally and denoted by a circle that contains the letter "e" followed by a number.

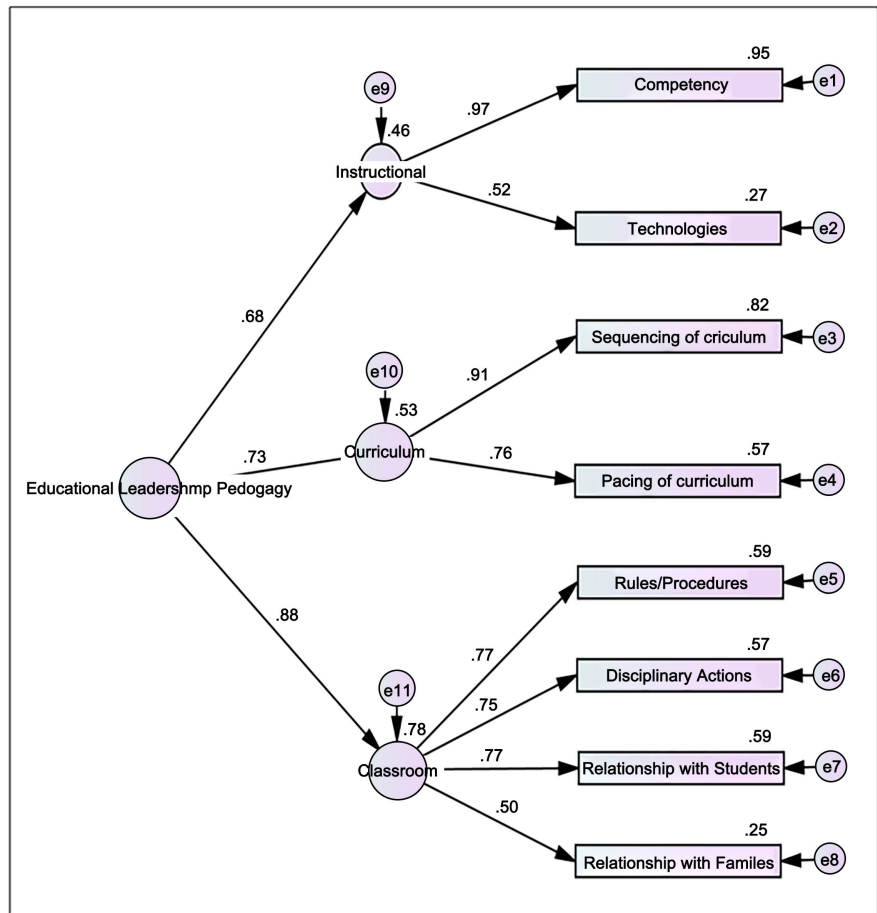


Figure 2. Path analysis.

Table 5. Correlation table.

	Correlation Coefficient									
	Experience	Grade Level	Competency	Technologies	Rules /Procedures	Disciplinary Actions	Relationship with Students	Relationship with Families	Sequencing of Curriculum	Pacing of Curriculum
Experience	1	.407**	-.210	-.075	-.259*	-.085	-.058	-.046	-.115	-.318**
Grade Level	.407**	1	.099	.163	.092	.309**	.156	.235*	.308**	.179
Competency	-.210	.099	1	.480**	.440**	.471**	.535**	.314**	.544**	.559**
Technologies	-.075	.163	.480**	1	.443**	.361**	.477**	.286*	.495**	.457**
Rules /Procedures	-.259*	.092	.440**	.443**	1	.561**	.553**	.293*	.549**	.624**
Disciplinary Actions	-.085	.309**	.471**	.361**	.561**	1	.547**	.387**	.545**	.589**
Relationship with Students	-.058	.156	.535**	.477**	.553**	.547**	1	.387**	.516**	.648**
Relationship with Families	-.046	.235*	.314**	.286*	.293*	.387**	.387**	1	.460**	.413**
Sequencing of Curriculum	-.115	.308**	.544**	.495**	.549**	.545**	.516**	.460**	1	.595**
Pacing of Curriculum	-.318**	.179	.559**	.457**	.624**	.589**	.648**	.413**	.595**	1

\*\* . Correlation is significant at the .01 level (2-tailed). \* . Correlation is significant at the .05 level (2-tailed). a. Listwise N = 72.

**Table 6.** Reliability statistics.

Reliability Statistics	
Cronbach's Alpha	N of Items
.803	10

AMOS generated two types of regression estimate (standardized and unstandardized regression weights). Standardized estimate enables identifying which independent variable has the most impact on the dependent variable even if these independent variables have different units of measurements (De Pelsmacker et al., 2008) (Table 7).

The model fitness describes how well the model fits the data observation (IBM, 2022). The research model has an acceptable goodness of fit (GIF). The goodness of fit can be determined by dividing the Chi-Square ( $\chi^2$ ) value (CMIN) over the Degrees of Freedom (DF) which is within acceptable limit (CMIN/DF < 5) as highlighted by De Pelsmacker et al. (2008) (Table 8).

Also, the GIF of .874 indicates an acceptable fitness as pointed out by De Pelsmacker et al. (2008) (Table 9).

## 5. Findings

The regression analysis revealed the significance of the model rejecting the null hypothesis. All of the eight hypothesis were supported as illustrated in Table 10.

The regression analysis revealed that instructional leadership variance is explained by both technologies and teacher competency with competency explaining 65% of the variance followed by technology explaining the other 35%. Teachers' competency clearly is the most important part of instructional leadership. Ismail et al. (2018) strongly associated instructional leadership with teacher's functional competency. They pointed out that instructional leadership is the source of teachers' efficacy and have a strong impact on the students' academic performance. Because information technology is a mandate during the pandemic, teachers' competency to use information technology became very critical. As stated by one of the teachers in the interview, "e-learning tools are important to improve teacher leadership skills". This is also indicative in the correlation analysis between technology and teacher competency with a correlation coefficient of .480.

As for curriculum leadership, the regression analysis indicates that both sequencing and pacing of curriculum have significant roles in improving the curriculum leadership with the first having more impact as seen in the regression coefficient value of .906 compared to .521. In online classes, teachers have to be selective of the curriculum content that best convey the message to students in order to bring their attention to focus. Sequencing has to do more with the management and organization of the curriculum content (Chi, 2009) while pacing of content is associated with students acquiring of knowledge (Marzano, 2003). As a result, sequencing impacts pacing of curriculum and reflects in stu-

dent's performance as indicated by Good et al. (1978). Therefore, integrating these factors aid the development of effective leadership pedagogy especially during the pandemic period as highlighted by Marzano (2003).

Classroom leadership was significantly impacted by classroom rules and procedures, disciplinary actions, relationship with students and the relationship with families. Rules and procedures factor had the same impact as the relationship with students' factor with a regression coefficient score of .767 followed by disciplinary actions with a regression coefficient value of .754 while the lowest score was for the relationship with families with a value of .498. Disciplinary actions were strongly associated with both rules and procedures and relationship with students. This indicates that in an online learning environment, students tend to follow rules and procedures when there is a disciplinary action. This could

**Table 7.** Regression estimates.

Dependent Variables	Independent Variables	Standardized Estimates ( $\beta$ )	S.E.	C.R.	P-Value
Instructional	Competency	.974	.069	5.235	***
	Technologies	.521	.064	4.348	***
Curriculum	Sequencing of curriculum	.906	.052	5.280	***
	Pacing of curriculum	.521	.060	6.336	***
Classroom	Rules/Procedures	.767	.045	4.790	***
	Disciplinary Actions	.754	.040	6.090	***
	Relationship with Students	.767	.038	6.179	***
	Relationship with Families	.498	.055	3.956	***
Educational Leadership Pedagogy	Instructional	.679	.057	4.151	***
	Curriculum	.728	.081	4.258	***
	Classroom	.883	.141	4.343	***

\*\*\*. *P*-value is significant at the .05 level.

**Table 8.** CMIN model fitness test.

Model	NPAR	CMIN	DF	<i>P</i>	CMIN/DF
Default model	16	51.955	20	.000	2.598
Saturated model	36	.000	0		
Independence model	8	251.546	28	.000	8.984

**Table 9.** GFI model fitness test.

Model	RMR	GFI	AGFI	PGFI
Default model	.068	.874	.773	.486
Saturated model	.000	1.000	0	
Independence model	.216	.371	.191	.288

**Table 10.** Supported hypothesis.

Number	Alternative Hypothesis	Results
1	<i>Instructional leadership pedagogy is positively influenced by teachers' competencies.</i>	Supported
2	<i>Instructional leadership pedagogy is positively influenced by technology.</i>	Supported
3	<i>Classroom leadership pedagogy is positively influenced by rules and procedure.</i>	Supported
4	<i>Classroom leadership pedagogy is positively influenced by disciplinary actions.</i>	Supported
5	<i>Classroom leadership pedagogy is positively influenced by relationship with students.</i>	Supported
6	<i>Classroom leadership pedagogy is positively influenced by relationship with families.</i>	Supported
7	<i>Curriculum leadership pedagogy is positively influenced by sequencing of content.</i>	Supported
8	<i>Curriculum leadership pedagogy is positively influenced by pacing of content.</i>	Supported

also be attributed to the nature of the sample demographics. About 67% of the responses came from early learners teachers who taught grades between 1 and 4. Students of earlier grades especially those who have attended the school for the first time via an online learning environment do not have the sense of physical attendance to understand and comprehend how to follow rules and procedures and may tend teachers to enforce disciplinary actions in order to control the class. Nevertheless, the literature indicates that rules and procedures are important elements of classroom management and they help teachers better control their online classes especially for the earlier stages of learning. Disciplinary action is one method of enforcing rules and procedures and does not mean punishment. Encouraging students to participate and reward them for positive online behavior are both considered part of the disciplinary action techniques.

Rules and procedures are also associated with a stronger relationship between teachers and students. As illustrated in the correlation analysis, the correlation coefficient value of .553 showed the strong association between rules and procedures and teachers-students relationship. In a study conducted by Mokhele (2006), teachers who maintained good relationship with students have also had a strong classroom management and incorporated disciplinary actions in their classes. This approach helped learners improve their self-discipline, dignity and improved their learning process He further elaborated that discipline is the practice of care and respect to learners and should be viewed as a positive approach to promote the development of learners character improvement (ibid.)

Relationship with families had the lowest impact on classroom management



leadership. In fact, it was the lowest among all factors identified in the model. Relationship with families was added to the model as factor identified by teachers during the interview phase of this research. According to the interviewed teachers, it is important to expand classroom management leadership by understanding the circumstances of the students' families especially during the upsurge of the pandemic. Family involvement is often seen as a sign of care and reflection of students' academic performance (Brewer, 2020). However, this does not seem to be the general view of the surveyed sample as this factor received the lowest score in terms of correlation value with the other class management leadership components of rules and procedures, disciplinary actions and relationship with students.

This could be attributed to several factors which may include individual difference of students, reaching out to families and clear communication. According to Brewer (2020), relationship with families may suffer due to families' circumstance especially if parents are in position that makes them unsure about their role in the child's academic development (e.g. divorced or have family problems). This may not encourage teachers to be involved in such a relationship which may be considered a private matter especially in a Middle Eastern culture. Another aspect that may cause teachers to avoid such a relationship is the frustration that they may face when reaching out to families. Communication is another aspect that may cause teachers to disregard this relationship as parents generally perceive teacher's feedback as personnel or negative which may not help their child's academic performance.

Educational leadership pedagogy is heavily impacted by the three major factors identified in the model. These are the instructional leadership, curriculum leadership and classroom management leadership. Classroom leadership had the highest regression weight with a regression coefficient of .883, followed by curriculum leadership with a value of .728 and instructional with a value of .679. Classroom management explained about 38% of the variance of educational leadership pedagogy while curriculum leadership explained 32% of the variance followed by instructional leadership with 30% of the variance. Classroom management is the solid ground in which the teachers can build rules and regulation to control students behaviours which will enable the teacher to manage students focus and content of course materials. According to Qin (2020) most of the published research on curriculum has focused on materials development rather than on material use. Research has underestimated the importance of having a systematic approach when utilizing the curriculum in the classroom (ibid.). As a result, how teachers design the curriculum for focused learning is essential.

## 6. Discussion

This research study revealed the importance of three main aspects of educational leadership pedagogy which are instructional, curriculum and classroom leadership. These three aspects of leadership has a strong association with students'

performance. The findings revealed the critical importance of teachers' competency development in improving the instructional leadership of the schools. Despite the importance of technology, teacher competency is the most important aspects of instructional leadership strategy. The findings of this research clearly show the high correlation level between instructional leadership strategies and classroom management revealing the importance of instructional leadership in managing classrooms. This research study gave a special attention to the curriculum leadership focusing on both pacing and sequencing of content which is one of the least areas researched in the literature (Marzano, 2003). School leaders have to make decisions about how to sequence materials content prior to running classes. According to Marzano (2003), this practice is important to ensure a structured student engagement to allow for effective knowledge transfer. Classroom management was found to be the most important factor of educational leadership pedagogy during the COVID-19 pandemic. Classroom management involves teachers, students, school environment and parents' involvement. Establishment and reinforcement of rules and procedures through the utilization of disciplinary actions is critical to achieve an effective class performance.

Despite the nonphysical contact in the traditional classroom setting, classroom management that involves setting clear rules and procedures for students to follow, allowing and encouraging students to participate, providing them with the required guidelines to improve their performance are all effective classroom management leadership strategies. As pointed out by Malmgren et al. (2005), "a cohesive and thoughtfully constructed personal philosophy of classroom management can provide the foundation from which teachers make classroom management decisions and respond to instances of student misbehavior". They highlighted specifically the role of psychology training to better understand students' misbehaviour to be addressed in the most appropriate procedures and apply the corrective disciplinary actions as needed. Documentation and feedback loops are critical aspects that needs integration in the educational leadership pedagogy in order to further improve schools effectiveness and students performance on regular basis.

## 7. Conclusion

This research project has contributed to the literature through the development of an integrated model to help better understand the concept of educational leadership pedagogy and sustain schools' performance. The model concluded that there are three main factors of educational leadership pedagogy. The first is to have instructional leadership by building teachers' competencies in general with a specialized focus on their technology efficacy. Training program for teachers is one of the best practices that can be used to increase the effectiveness of instructional leadership. Another best practice is to have knowledge sharing sessions to improve this leadership aspect. The second part of the model is the curriculum leadership which involves the teachers' ability to manage the curriculum content

through pacing and sequencing. School management has to set processes to revisit the curriculum on regular basis in order to achieve the best pacing and sequencing that improve both teachers' effectiveness and students' performance. The third aspect is classroom management leadership which involves communication and relationships. Schools have to set clear communication guidelines, a class management training program in addition to parents' involvement and intervention programs to ensure the best school outcome.

## 8. Limitations of the Study and Future Outlook

Despite the comprehensive methodology undertaken during the course of this research, the study findings cannot be generalized. This study has several limitations which might be addressed in future research. The study was conducted on a small scale and took place in a single private school in Dammam city, Saudi Arabia in the girls' section. As such, gender differences might have an alteration in the findings. The findings might also be different if the research study was conducted in the public sector. Future research might utilize this research model for the application in the public setting. Another limitation is the sample size. The sample size plays a major role in the statistical significance of the research outcome. Studies with larger sample sizes tend to produce more precise results (Gray, 2014). This study has a sample size of 72 teachers which may have an impact on the statistical significance of the findings. Future studies may apply this research model to a larger sample size to validate the statistical power of the research tools. The study focused on the educational leadership pedagogy during COVID-19 pandemic and therefore it is worth validating the research instruments for distance learning education in a normal setting. The study was conducted in Saudi Arabia's educational environment and the results may vary if the research was conducted in different countries.

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## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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