

## **A Research Report**

**“How do Cambodian secondary schools meet minimum standards of school effectiveness through application of managerial and transformational leadership models?”**

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## 1. Executive Summary

The main purpose of this study was to examine the correlation between high school principals' leadership styles that led their schools to meet the minimum standards of school effectiveness and the leadership outcomes, with a focus on extra effort, effectiveness, and satisfaction among teachers. The transformational, transactional, and laissez-faire leadership styles were considered in the study. The key constructs and items of these leadership styles were adapted from the Multifactor Leadership Questionnaire (MLQ) generated based on Bass and Avolio's full-range leadership theory. The English questionnaire was translated into Khmer and then back from Khmer to English.

There were 1982 teachers and 75 high schools in 24 capitals and provinces, except Preah Vihear province, who cooperated and answered the questions. The number of schools and teachers selected was based on achieving school effectiveness results (World Bank, 2021). As a statistical calculation, in order to fit the sampling selection, the study required teacher respondents at least from 1251 to meet its significance of  $p < 0.001$  (see Table 7).

The structural model of constructs and items of leadership styles and its outcomes adapted fit after testing the reliability and validity using EFA, CFA, and SEM methods in SPSS and Mplus. Statistically, the fit indices revealed that the structural model fit with the empirical data well. The constructs and items of transformational and transactional leadership and outcomes meet the good reliability and validity of leadership and management in the Cambodian high school context.

However, the results of the study on leadership styles and their outcomes may be applicable to secondary schools having experienced implementing SBM supported by MoEYS. Future studies should extend to cover the application of leadership styles among principals of lower secondary schools, primary schools, pre-schools, or educators at national and sub-national levels.

The results of the study serve and inform wisely and effectively to schools and policymakers to consider transformational and transactional leadership styles in workplaces. Its leadership outcomes of increasing efforts, school effectiveness, and satisfaction among teachers will help schools become autonomous and accountable public service providers and achieve good school governance.

## 2. Introduction

### 2.1 Implementation of Decentralization Policy

Public schools require power to execute wider roles in scoping achievement standards, local curriculum integration, and assessment quality with effective mechanisms in order to ensure accountability for school outcomes through providing them with more autonomy and decentralization OECD (2018). According to Caldwell, 2005 cited by BO, Ch.K. (2019), educational decentralization, the authorities, responsibilities, decision-making involving school operations, curriculum practices, assessment, transparency, and accountability at the school level. The World Bank (2022) issued that the Royal Cambodian Government shifted decentralization and deconcentration (D&D) to improve quality public service provisions from national to sub-national authorities in order to work more closely with the people and their communities. The sub-national authorities include the commune/Sangkat, district, municipal, or Khan, and capital and provincial levels of government. The roles, responsibilities, and accountabilities of service delivery at the district, municipal, or Khan level are clearly defined regarding strengthening public financial management systems and practices, staff management, and resource management.

BO, Ch.K. (2019) states that the Ministry of Education, Youth, and Sport (MoEYS) increases its annual budget and expenses and allocates resources from relevant stakeholders, partners, and communities to enhance the quality of teaching and learning at the school level. School principals, teachers, and parents play a key role in implementing educational policies at schools. MoEYS supports school reform and School-Based Management (SBM) by improving teacher education and educational professional development, modern teaching methods and resources, and school leadership and management skills. MoEYS has developed a number of policies and implemented guidelines to support the implementation, monitoring, and evaluation of sub-national authorities and schools.

### 2.2 School-Based Management (SBM) Implementation

To achieve the Royal Government of Cambodia's policy of free market regime, the educational policy reformed the structure from central hierarchy to decentralization (Brehm & Bray, 2015) to

meet global needs and be in line with OECD policies of improving leadership, quality, and quality of education in schools (Beatriz, Deborah, & Hunter, 2008). In this regard, MoEYS is changing the current school management to SBM (Shoraku, 2008). School leaders must ensure change by becoming an organizational learning unit (Watson, 2009). Therefore, MoEYS is currently decentralizing or providing autonomy for development planning, resource utilization, decision-making, and leadership from the ministry to subordinate institutions at the provincial, district, khan, and school levels (Shoraku, 2008).

SBM is the educational decentralization of the powers and responsibilities of MoEYS to schools to make decisions on school leadership and management, teaching and learning, and communication with community and development partners, parents, and students. It addresses key issues related to school operations that meet the school's vision and goals, policy framework, curriculum standards, and accountability. Schools provide quality, efficient, and friendly education services to meet the needs of students, parents, communities, and society. The implementation of SBM in the OECD (or developed countries) gives schools the full authority and responsibility (school autonomy) to meet the needs of the community and improve the quality of students' education (Fullan & Watson, 2000). All stakeholders, especially school management committees or principals, have a high degree of ownership. In practice, SBM has different forms, depending on the context of each country, such as: (a) administrative control, in which all activities are directed by the principal; (b) professional control. Most decisions are made by teachers; (c) community control, in which parents play the most important decision-makers; and (d) balanced control. All decisions are made by teachers and parents (Patrinos & Fasih, 2009, pp. 97–99).

In Cambodia, the SBM concept was launched in 1998 with the aim of improving the quality of education by putting into the School Quality Improvement Project (EQIP) School Grants Program, focusing on school priority plans (Patrinos & Fasih, 2009, p. 10). EQIP provided study materials to improve teacher training, the library, and the capacity to produce and implement school plans. In addition, Shoraku (2008, pp. 9–10) states that the purpose of the SBM in Cambodia focuses on three priority policies: (1) ensuring equitable access to basic education; (2) enabling quality and efficiency improvement; and (3) capacity building for decentralization.

MoEYS enables the autonomy of operational schools implemented in the Priority Action Program. (PAP). For example, primary schools have established school support committees to encourage schools to implement PAP and be accountable for school activities. At the same time, Tan (2010) shows that Cambodia has copied the education system from developed countries, improving the curriculum and focusing on providing technical skills, science, and business knowledge. The new education policy focuses on the decentralization of ICT and student-centered pedagogical approaches.

The current implementation of decentralization in the form of devolution (Zajda & Gamage, 2009, p. 29) to sub-national and school levels through the inclusion of educational projects and policies. The implementation of SBM enables the school to balance school performance and stakeholder engagement, bringing about a change in working culture, leadership and management skills, budget and resource stability, and teaching and learning quality management (Hanson, 1998). At the same time, the implementation of SBM requires schools to restructure, define new roles, tasks, and responsibilities to ensure the participation of all stakeholders, use resources effectively, and develop staff and institutional capacity continuously. Developing leadership and management skills in school leaders is key to attracting stakeholders and the success of SBM implementation (Patrinos & Fasih, 2009).

MoEYS has introduced strategies to implement SBM at the sub-national level and in schools including: (1) restructuring the school's roles, responsibilities and responsibilities to increase the capacity of performance and the decision-making process. MoEYS produces guidelines and policies in order to allow schools to use them as reference documents to reform their structure and responsibility for attracting participation and achieving goals. (2) Develop professional capacity, mobilize resources, and (3) In line with the current context of SBM implementation, school leaders have introduced the leadership trend to managerial (or transactional) and transformational leadership. Since 2017, MoEYS has introduced SBM to 100 secondary schools around the country under a borrowing budget from the World Bank. School effectiveness is an outcome indicator used to assess school improvement at the end of each academic year.

### 2.3 School Effectiveness and Challenges

According to MoEYS (2020), SBM implementation adapted the 3 As Closed Loop System from the best practices of the World Bank to guide 100 secondary schools in operating educational services. The 3As Closed Loop System (Assessment, Autonomy, and Accountability) has been accepted as a successful model regarding school autonomy and responsibility in the context of educational decentralization.

*Assessment:* The aim of this strategy is to highlight the current level of performance of students, teachers, school principals, and schools, which informs what is to be done during the school year and following the school year. Classroom student assessments have been conducted in all targeted schools. The results of assessments is vital for school improvement planning, classroom-level teaching planning, monthly monitoring, and individual student monitoring. The challenge is to use the assessment results to improve teaching by focusing on supporting individual students so that s/he can reach level A or B in core subjects.

*Autonomy:* The aim of this strategy is to assign authorities to make the right decisions for improving the performance of students, schools, and teachers, as shown by credible data as evidence of school accountability. All targeted schools performed according to their assigned authorities and have credible data. The challenge is to guide the schools to develop further toward the standards of high-middle-income country schools.

*Accountability:* The aim of this strategy is to build community trust in schools and among teachers. In order to build trust, schools and teachers perform tasks professionally and with respect to the core values of community schools and school culture. The tasks conducted professionally are evidenced by credible data that shows transparency in public. The credible data are the ones that show students' performance, school operations (SIP and report cards), school standards, and financing. The challenges are the provision of firm and timely support to students so that 20% get level A and 30% get level B.

According to MoEYS (2021), the Secondary Education Improvement Project (SEIP) completed all three disbursement-linked indicators (DLIs): (1) Improved SBM: At least 20 target lower secondary schools have achieved the minimum standards defined in the Lower Secondary School

Effectiveness Standards (LSSES); (2) Program monitoring: MoEYS has submitted its third annual status report on the School Improvement Fund (SIF) program that provides updates on all progress indicators defined in SIF; (3) Upgrade training: At least 500 lower secondary school teachers have graduated from the upgrading program. The main activities to support targeted schools include: a) Preparing annual school improvement plans (SIPs) based on results that the schools achieved and the challenges they faced in the previous year against indicators of the nine standards of effective schools; b) Implementing the systems for mentoring and coaching of teachers; c) Upgrading teachers' qualification to bachelor's degree status; d) Upgrading qualifications of school directors, deputy directors, and selected sub-national staff to improve the quality of their work and to support SBM reform program; e) Improving school facilities by constructing new classrooms, renovating existing classrooms, establishing laboratories for students to learn, constructing teachers' common houses; and f) Strengthening education sector by building capacities of MoEYS staff, developing core education policy documents, strengthening monitoring and evaluation mechanisms, supporting the PISA-D and others so that these activities at the central ministry level and support schools to operate better to improve students' learning outcomes.

At the end of each academic year, all 100 target schools assessed their school effectiveness through the application tool of school effectiveness standards. The schools that meet school effectiveness standards means that they are able to obtain at least 140 scores against maximum scores of 210, and they could meet the minimum scores of all nine standards. Each standard must achieve its minimum score, and it cannot carry over the scores from other standards. Table 1 shows the scores of each standard and the total score of the school effectiveness standard. A school meets the minimum scores of each standard, and the total minimum score is considered to meet the school effectiveness standard.

Table 1

*Nine Standards of School Effectiveness with the Assigned Scores for All the Standard*

Standards	Achieved Scores		
	Lowest Scores	Minimum Scores	Maximum Scores
Standard 1: School Policy Objectives (Student Outcomes)	12	24	36
Standard 2: Teaching and Learning	26	52	68

Standard 3: Parent and Communities Supports Student Learning	4	8	12
Standard 4: Student and Student Support Services	7	14	21
Standard 5: School Leadership and Management	7	14	21
Standard 6: Human Resources	3	6	9
Standard 7: Textbook and Teaching and Learning Materials	3	6	9
Standard 8: School Infrastructure and Environment	5	10	15
Standard 9: Financing and Financial Management	3	6	9
Total	70	140	210

As a result, at the end of the SEIP project, 2021, 79 of the 100 SEIP target schools had achieved the minimum standards of school effectiveness, except for 17 potential schools achieved, and the other 4 schools did not.

According to Thrupp (2001), school effectiveness and improvement are defined as socially and politically decontextualized schools run by a school management system. 80% of school effectiveness studies showed improvement in student outcomes through providing the details of student learning background rather than explaining the school body's success (Teddlie & Reynolds, 2000).

Teddlie and Reynolds (2000) argued that "schools not only make a difference, but they add value despite the strong influence of family background on children's development. Effective school leadership styles are vital to school effectiveness and student learning outcomes.

Chemers (1997) defined "leadership as a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task." Thus, "leadership involves a social influence process in which one individual exerts intentional influence over others to structure activities and relationships in a group or organization." The leader is the one who has influence and is expected to carry out the leadership role. The other members of the organization are followers. It is a social process that occurs naturally within a social system. Leadership, then, is a process or property of the organization rather than of the individual. Effective school leadership style is a result of contributions from school leaders, followers, and the school context (Spillane, Halverson, & Diamond, 2003).

In this regard, the study attempts to evaluate the principal leadership styles applied during the implementation of the SBM project by suggesting transformational leadership, transactional leadership, and non-leadership styles' criteria of Avolio and Bass (1991).

#### 2.4 Objectives of Study

The main purpose of this study is to identify and analyze the key aspects of school leadership to improve the quality of education at the secondary school level in Cambodia. The study adopted full-range leadership theory applications to school leadership to define the critical correlation between school principals and their leadership styles. Then, provide the key recommendation of the most suitable leadership style in the Cambodian secondary school context to school leaders and decision-makers.

#### 2.5 Research Questions

- 1) What leadership theories (The Bass and Avolio's full-range leadership theory) are manifested in Cambodian secondary schools?
- 2) How, and to what extent, are managerial and transformational leadership practiced in Cambodian secondary schools? and
- 3) What is the relationship between these leadership theories and their effectiveness in Cambodian secondary schools?

#### 2.6 Limitations of the Study

The study focused on secondary schools that implemented the SEIP project in the context of SBM applications in Cambodia. This may not be a suitable application for secondary schools without direct support for achieving school effectiveness from MoEYS and development partners. The timeframe for testing data collection tools may also affect the empirical evidence of the study. The further study should extend to cover the application of leadership styles among principals of lower secondary schools, primary schools, pre-schools, or among educators at national and sub-national levels.

### 3. Literature Review

In the actual practice of school leadership and management, leaders consider their leadership style in order to respond to organizational outcomes. The study attempts to integrate the current context

of educational development and effective school leadership. Bass and Avolio’s full-range leadership theory was used in this study. Avolio and Bass (1991) created a full-range leadership theory, including three categories of leadership styles. They are transformational, transactional, and non-transactional laissez-faire leadership.

According to Avolio (2010) illustrated full-range leadership theory as:

Table 2

*Illustration of Full-Range Leadership Theory*

Laissez-faire	Transactional		Transformational			
Hands-off leadership	Management by Exception	Contingent Reward	Individual Consideration	Intellectual Stimulation	Inspirational Motivation	Idealized Influence
	Passive	Active	Caring	Thinking	Charming	Influencing

### Transformational Leadership

Burns (1978) introduced the concept as a relationship between leaders and followers that elevates both to a higher level of motivation and morality. A few years later, Bass (1985) created the concept of transformational leadership by identifying four key dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

### Transactional Leadership

According to Adams (2018), the transactional leadership concept was developed by Max Weber in 1947 and James McGregor Burns in 1978. The theory showed the approach of social change between leaders and followers: staff complete tasks assigned for exchanging promotions. Adams (2018) explained that the diagram of transformational leadership consists of contingent reward and active and passive management of exception. In contingent reward, the followers make an effort toward a specified reward. It assumes that followers are motivated by focusing on achieving goals in order to be rewarded. Active management by exception refers to the leaders correcting mistakes and monitoring progress and issues in schools while leaders take serious actions to deal with the problems.

### Laissez-Faire

Antonakis, Avolio, and Sivasubramaniam, 2003 mentioned that “laissez-faire (nontransactional laissez-faire leadership) represents the absence of a transaction of sorts with respect to leadership in which the leader avoids making decisions, abdicates responsibility, and does not use their authority. It is considered active to the extent that the leader “chooses” to avoid taking action. This component is generally considered the most passive and ineffective form of leadership.”

Bass (1997) mentioned that leaders use a transformational leadership style that focuses on the development of motives, feelings of motivation, and critical positive emotions of followers through generating and showing a future-inspired vision. However, transactional leaders base their decisions on a clearly defined system of contracts and rewards. The full-range leadership theory represents nine leadership factors. Later, the Multifactor Leadership Questionnaire (MLQ) was developed and widely applied to measure the implications of school leadership in the educational context. The Multifactor Leadership Questionnaire (MLQ) is the standard tool to measure a range of transformational, transactional, and non-leadership styles, while transformational leadership is most effective in many educational contexts around the globe (Judge & Piccolo, 2004).

Antonakis, Avolio, and Sivasubramaniam (2003) explained in their study that:

1. Transformational leaders support followers by being aware of collective interests and meeting the goals of the organization. Transformational leadership consists of five key factors: (1) Idealized influence (attributed) is when the leaders are confident and powerful and strongly consideration on higher-order of ideals and ethics; (2) Idealized influence (behavior), the leaders focus on values, beliefs and mission of organization; (3) Inspirational motivation, the leaders view followers the optimism and stressing future goals, predict and communicate among follower to achieve the organizational vision; (4) Intellectual stimulation, leaders push followers to think, challenge and explore solutions to real problems; and (5) Individualized consideration, leaders support and focus on needs of individual followers and provide them opportunity the self-development and actualization.
2. Transactional leadership focuses on the achievements of agreed obligations and the actions of setting objectives, tracking, and controlling the outcomes. Transactional leadership centers on: (1) contingent reward, where the leaders define followers' roles,

- tasks, and responsibilities and offer them needed material or reward contingent when they meet the contractual obligations; (2) management-by-exception active, when the leaders set goals that meet the standards; and (3) management-by-exception passive, when the leaders take actions after mistakes or problems occurred.
3. Non-transactional laissez-faire leadership, laissez-faire leadership, or non-leadership appears when leaders do not apply transactional leadership. Leaders attempt to avoid making decisions, do not hold responsibilities, and do not use their authority. They do not take actions or interventions to address the problems. This type of leadership is considered the most passive and ineffective.

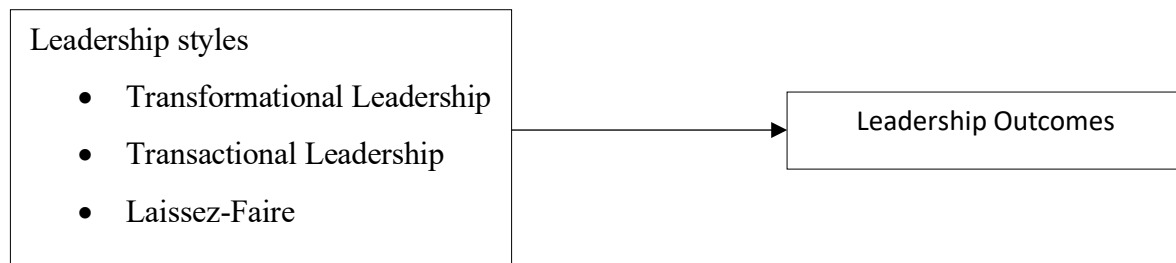
In the Cambodian educational context, The Bass and Avolio's full-range leadership theory (FRL) or The Multifactor leadership Questionnaire (MLQ) are not widely used to assess school leadership at school levels. There might be existing, locally developed methods for assessing school leadership in Cambodia. These methods might be more culturally relevant and readily accessible to Cambodian educators. It is important to note that the situation might be evolving. There's a growing focus on educational improvement in Cambodia, and this could lead to increased interest in adopting international best practices in school leadership. As a result, frameworks like Bass and Avolio's and the MLQ might gain more traction in the future. The study attempts to adapt the tool to measure principals' leadership styles and provide critical suggestions for school leadership development and improvement.

According to Givens (2008), transformational leadership alone influences organizational development and staff outcomes in various ways, including empowerment, job satisfaction, commitment, trust, self-efficacy, beliefs, and motivation. The correlation between Bass and Avolio's FRL and the MLQ is well-established, particularly in terms of assessing leadership styles and predicting certain leadership outcomes. Both FRL and MLQ have been linked to various positive leadership outcomes, including: (1) individual outcomes relate to increased employee motivation, engagement, job satisfaction, and performance; (2) team outcomes focus on enhanced team cohesion, collaboration, and effectiveness; and (3) organizational outcomes refer to improved organizational performance, innovation, and adaptability. Figure 1 attempts to draw the impact of leadership styles from Bass and Avolio's full-range leadership theory, such as transformational,

transactional, and laissez-faire leadership, on teachers' extra effort, job effectiveness, and job satisfaction.

Figure 1

*Proposed Conceptual Framework of Secondary School Leadership Styles*



#### 4. Research Methodology

The research design follows the qualitative methodology, namely the correlational research method (Apuke, 2017). The study attempts to examine the effect of leadership style variables and leadership outcome variables within the same group of respondents. The correlational research method allows researchers to work closely with schools to collect both primary and secondary data (Wallen 2013). In this regard, SEIP achievement reports and school data of 100 target schools of SEIP were collected as references for the study.

The study used leadership questionnaires as a data collection tool. The Multifactor Leadership Questionnaire (MLQ) was translated and adapted into Khmer and translated back to English for reporting. Likert-scale item measurement was applied, including 1. Strongly disagree 2. Somewhat disagree 3. Neither agree nor disagree 4. Somewhat agree and 5. Strongly agree was used to gather answers from the respondents (Brown, 2011). School leadership factors and key items (Rowold, 2005) are:

##### 1. Leadership Style

###### Transformational Leadership

- Idealized influence - attributed (IIA) – 4 items
- Idealized influence - behavior (IIB) – 4 items
- Inspirational motivation (IM) – 5 items
- Intellectual stimulation (IS) – 5 times

- Individualized consideration (IC) – 5 items

Transactional Leadership

- Contingent reward (CR) – 5 items
- Management-by-exception active (MBEA) – 5 items
- Management-by-exception passive (MBEP) – 4 items

Laissez-Faire

- Non-leadership style – 5 items

2. Leadership Outcomes

- Extra effort (EE) – 5 items
- Effectiveness (EFF) – 5 items
- Satisfaction (SAT) – 5 items

Teachers of both genders from 100 target schools of SEIP of 25 provinces selected to conduct interview. The study is funded by AAC research grants, Australia Awards Cambodia for academic year 2022-2023. The table 3 provides detail information of number of teachers participated in the data collection process.

Table 3: Number of Teachers and Schools Participated in the Study

No	Capital/Provinces	High Schools	Teachers	Percent
1	Banteay Meanchey	4	131	6.6
2	Battambang	3	88	4.4
3	Kampong Cham	3	59	3
4	Kampong Chhnang	1	21	1.1
5	Kampong Speu	3	60	3
6	Kampot	5	104	5.2
7	Kandal	8	236	11.9
8	Keb	1	53	2.7
9	Koh Kong	1	5	0.3
10	Kompong Thom	4	99	5
11	Kratie	3	21	1.1

12	Mondulkiri	2	42	2.1
13	Oddor Meanchey	2	62	3.1
14	Pailin	1	35	1.8
15	Phnom Penh	5	177	8.9
16	Prey Veng	6	165	8.3
17	Pursat	3	44	2.2
18	Rattanakiri	1	3	0.2
19	Siem Reap	3	113	5.7
20	Sihanoukville	3	90	4.5
21	Stung Treng	1	13	0.7
22	Svay Rieng	3	109	5.5
23	Takeo	5	150	7.6
24	Tbong Khmum	4	102	5.1
	Total	75	1982	100

The study used SPSS and Mplus to analyze, summarize, and present the data. There are few statistical methods used to explain the association between studied variables and data displays. This correlational study attempts to test whether (and how strongly) variables of leadership styles that contribute to school effectiveness are related to and influence leadership outcomes. Several statistical tests are considered (Kyriazos, 2018):

- Run EFA (Exploratory factor Analysis) and CFA (Confirmatory Factor Analysis) to define best fit items to each leadership style and leadership outcomes
- SEM (Structural Equation Modeling) is a method that estimated the covariances and describes the equation of a regression line describes the relationship between the variables of leadership style and outcomes in the study.

## 5. Findings

EFA for Transformational, Transactional, Lessez-faire leadership and leadership outcomes

To conduct EFA for leadership styles and its outcomes, the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test run in SPSS examines the data from adapted factors and items to determine if the

data are accurate for factor analysis. According to Field (2000), the KMO value is accepted from greater than 0.5. In this study, the KMO Measure of Sampling Adequacy is .970 while Bartlett's Test of Sphericity is 57091.413,  $df = 596$  and  $sig = .000$ . Thus, the data are appropriate for conducting exploratory factor analysis. The EFA is a critical statistical method to measure and evaluate the scales and tests of adapted factors and items of western the Multifactor Leadership Questionnaire (MLQ) in the Cambodian context (Williams, Onsman, & Brown, 2010).

The study has adapted factors and items of the Multifactor Leadership Questionnaire (MLQ), which transformational leadership focus on five factors and 23 items; transactional Leadership, three factors and 14 times; laissez-faire or non-leadership style is five items; leadership outcomes are three factors and 15 items. EFA runs principal axis factoring, promax, and suppress small coefficients (absolute value from .50). First, in Table 4 shows the leadership factor reliability, value of corrected item-total correlation, and Means (SD) of leadership factors.

In transformational leadership, four factors appeared and reduced from five due to factor one and two combined together, while the items are the same. The factor loading of idealized influence-attributed/behavior (IIA/IIB) presents Cronbach's alpha values ( $\alpha$ ) = 0.95 and Means (SD) of 4.38 (0.74). Inspirational motivation (IM),  $\alpha = 0.94$  and Means (SD), 4.37 (0.81); Intellectual stimulation (IS),  $\alpha = 0.92$  Means (SD), 4.24 (0.79); and Individualized consideration (IC),  $\alpha = 0.94$ , Means (SD) 4.14 (0.91). Second, transactional leadership remained one of three factors, Contingent reward (CR),  $\alpha = 0.93$  and Means (SD) 3.97 (0.99); while management-by-exception, active (MBEA) and, passive (MBEP) and non-leadership styles disappeared from data analysis. Factors of management-by-exception, active (MBEA) and, passive (MBEP) of transactional leadership and factor of laissez-faire may not suitable for Cambodian school context. Last but not least, leadership outcomes still used the three factors though there were three items deleted. Extra effort (EE) is  $\alpha = 0.87$ , Means (SD), 4.39 (0.70); Effectiveness (EFF),  $\alpha = 0.95$ , Means (SD), 4.17 (0.81); and Satisfaction (SAT) contributed value  $\alpha = 0.92$ , Means (SD) 4.57 (0.62).

Table 4: Means, Standard Deviations

Leadership Styles	Factors/Items	Corrected Item-Total Correlation	Cronbach's alpha values	Means (SD)
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Transformational Leadership	Idealized influence – attributed/ behaved (IIA/IIB)		$\alpha = 0.95$	4.38 (0.74)
	IIA1	0.784		
	IIA2	0.835		
	IIA3	0.846		
	IIA4	0.858		
	IIB1	0.864		
	IIB2	0.854		
	IIB3	0.777		
	IIB4	0.779		
	Inspirational motivation (IM)		$\alpha = 0.94$	4.37 (0.81)
	IM1	0.821		
	IM2	0.846		
	IM3	0.827		
	IM4	0.829		
	IM5	0.832		
	IM1	0.821		
	Intellectual stimulation (IS)		$\alpha = 0.92$	4.24 (0.79)
	IS1	0.794		
	IS2	0.809		
	IS3	0.826		
IS4	0.813			
IS5	0.725			
Individualized consideration (IC)		$\alpha = 0.94$	4.14 (0.91)	
IC1	0.783			
IC2	0.835			
IC3	0.869			
IC4	0.841			
IC5	0.844			
Transactional Leadership	Contingent reward (CR)		$\alpha = 0.93$	3.97 (0.99)
	CR1	0.807		
	CR2	0.822		
	CR3	0.791		
	CR4	0.858		
	CR5	0.845		
Leadership Outcomes	Extra effort (EE)		$\alpha = 0.87$	4.39 (0.70)
	EE3	0.677		
	EE4	0.814		
	EE5	0.772		
	Effectiveness (EFF)		$\alpha = 0.95$	4.17 (0.81)

EFF1	0.839		
EFF2	0.885		
EFF3	0.885		
EFF4	0.885		
EFF5	0.858		
Satisfaction (SAT)		$\alpha = 0.92$	4.57 (0.62)
SAT2	0.766		
SAT3	0.801		
SAT4	0.852		
SAT5	0.838		

In Table 5 shows in details of the values of factor loadings, eigenvalues, and percentage of variance of transformational, transactional leadership styles and its outcomes, and communalities of each item loading. The extraction method of principal axis factoring and rotation method, promax with Kaiser Normalization, which needed rotation converged in 8 iterations were applied during conducting EFA.

**Table 5:** *Factor Loadings, Eigenvalues, Commonalities, and Percentage of Variance*

Items	Factor Loading									Communalities
	Transformational Leadership			Transactional Leadership		Leadership Outcomes				
	IIAII B	IM	IS	IC	CR	EE	EFF	SAT		
IIA1	0.759									0.618
IIA2	0.823									0.731
IIA3	0.879									0.747
IIA4	0.876									0.764
IIB1	0.869									0.777
IIB2	0.850									0.757
IIB3	0.767									0.628
IIB4	0.684									0.630
IM1		0.880								0.728
IM2		0.742								0.753
IM3		0.968								0.764
IM4		0.690								0.723
IM5		0.694								0.729
IS1			0.749							0.679
IS2			0.748							0.705
IS3			0.848							0.753
IS4			0.708							0.699

IS5			0.736						0.572
IC1			0.725						0.645
IC2			0.864						0.755
IC3			0.890						0.823
IC4			0.831						0.763
IC5			0.868						0.769
CR1					0.753				0.713
CR2					0.804				0.736
CR3					0.851				0.665
CR4					0.896				0.789
CR5					0.880				0.766
EE3						0.513			0.590
EE4						0.956			0.861
EE5						0.839			0.715
EFF1							0.828		0.729
EFF2							0.899		0.814
EFF3							0.920		0.819
EFF4							0.892		0.813
EFF5							0.855		0.766
SAT2								0.810	0.652
SAT3								0.806	0.697
SAT4								0.940	0.823
SAT5								0.877	0.800
Eigenvalue	19.829	1.352	1.198	1.754	2.104	1.089	2.512	1.503	
% Variance	49.572	3.379	2.995	4.385	5.261	2.723	6.279	3.757	
Cumulative % variance	49.572	72.633	75.629	65.497	61.112	78.352	55.851	69.254	

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.<sup>a</sup>

a. Rotation converged in 8 iterations.

### CFA for Transformational, Transactional, Lessez-faire leadership and leadership outcomes

According to Hair, Black, Babin, Anderson and Tatham (2006) run CFA in order to, first, determine individual factors/constructs to be the part of the model; second, generate overall assumptions of items studied to be indicators of each construct; third, plan the research study that provide the concerned empirical results; and four, test the validity of measurement model by assessing its construct/ factor loadings, covariances, variance extracted and error variance. During the study requires to conduct CFA of Transformational, Transactional, Lessez-faire leadership and leadership outcomes consider Chi square ( $\chi^2$  /df), the root mean square error of approximation

(RMSEA), the goodness of fit index (GFI), the comparative fit index (CFI), and SRMR (Standardized Root Mean Square Residual) (Hair, Black, Babin, Anderson and Tatham, 2006). In this study, CFA run by Mplus 7.11 of Muthen and Muthen (Muthen, Asparouhov, 2013).

### **Convergent and Discriminant Validity**

The construct validity, convergent and discriminant validities of IIAIIB, IM, IS, IC, CR, EE, EFF, and SAT were tested to make sure that they fit to the Cambodian application context. Hair et al. (2019) suggests that convergent validity accepted if factor loadings measured are 0.70 or higher with its average variance extracted (AVE) of 0.50 or higher. The discriminant validity accepted if AVE is greater than its maximum shared variance (MSV) and its average shared variance (ASV). Construct reliability (CR) assessed sufficient convergence or internal consistency. It required 0.70 or higher. Values of chi-square ( $\chi^2$ ), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Standardized Root Mean Squared Residual (SRMR), and Root Mean Squared Error of Approximation (RMSEA) were tested for CFA model fit. Hair et al. (2019) adds that the characteristics of model fit are chi-square with significant p values, CFI or TLI of above 0.92, SRMR of 0.08 or less with CFI above 0.92, and RMSEA of less than 0.07 with CFI of 0.92 or higher used for the research study with more than 30 observed variables and respondents are much more than 250.

Table 5 illustrates CFA results. It provides values of Composite Reliability (CR) and Average Variance Extracted (AVE) of factors, IIAIIB, IM, IS, IC, CR, EE, EFF, and SAT. The standardized factor loadings are between 0.759 and 0.921 among eight factors and 40 items. The factor loading was less than 0.50 excluded from the analyze to maintain desirable internal consistency. The construct reliabilities of transformational leadership (IIAIIB, IM, IS, IC) are 0.95, 0.94, 0.92, and 0.94 respectively, with the AVEs of 0.71, 0.73, 0.68, and 0.75 respectively. The construct reliability of transactional leadership is CR 0.93 respectively, while AVE is 0.73 respectively. The construct reliabilities of leadership outcomes (EE, EFF and SAT) are 0.87, 0.95, and 0.92 respectively, with the AVEs are 0.73, 0.80, and 0.75 respectively.

According to Hair et al. (2019), the results of statistical values are acceptable convergent validity, which means that a set of observed variables in each subconstruct converges a high proportion of variance in common in that latent construct.

Table 6: Factor Loading, Composite Reliability (CR) and Average Variance Extracted (AVE)

Factors/ Constructs	Items	Factor Loading	Residual Variances	$\alpha$	CR	AVE
IIAIIIB	IIA1	0.785	0.384	0.95	0.95	0.71
	IIA2	0.849	0.279			
	IIA3	0.857	0.266			
	IIA4	0.876	0.233			
	IIB1	0.888	0.212			
	IIB2	0.873	0.238			
	IIB3	0.796	0.367			
	IIB4	0.800	0.359			
IM	IM1	0.829	0.313	0.94	0.93	0.73
	IM2	0.870	0.243			
	IM3	0.833	0.306			
	IM4	0.866	0.249			
	IM5	0.875	0.235			
IS	IS1	0.822	0.324	0.92	0.92	0.68
	IS2	0.838	0.297			
	IS3	0.862	0.256			
	IS4	0.852	0.275			
	IS5	0.759	0.423			
IC	IC1	0.812	0.340	0.94	0.94	0.75
	IC2	0.859	0.263			
	IC3	0.914	0.165			
	IC4	0.872	0.239			
	IC5	0.869	0.245			
CR	CR1	0.849	0.280	0.93	0.93	0.73
	CR2	0.860	0.260			
	CR3	0.803	0.356			
	CR4	0.886	0.216			
	CR5	0.872	0.239			
EE	EE3	0.763	0.417	0.87	0.89	0.73
	EE4	0.900	0.190			
	EE5	0.886	0.216			
EFF	EFF1	0.858	0.263	0.95	0.95	0.80

	EFF2	0.898	0.193			
	EFF3	0.911	0.170			
	EFF4	0.911	0.170			
	EFF5	0.884	0.219			
SAT	SAT2	0.795	0.367	0.92	0.92	0.75
	SAT3	0.823	0.322			
	SAT4	0.919	0.155			
	SAT5	0.913	0.167			

Therefore, the CFA results (Table 7) also reveals that the measurement model fits the empirical data very well,  $\chi^2 (726,1982) = 4460.169$ ,  $p < 0.001$ , CFI = 0.951, TLI = 0.947, SRMR = 0.036, and RMSEA = 0.051 (90% CI = 0.050 - 0.052), suggesting that all the measures are able to fit the Cambodian context.

Table 7: *Measurement of Model Fit*

Chi-Square Test of Model Fit		
Value	4460.169	
Degrees of Freedom	726	
P-Value	0.000	
RMSEA (Root Mean Square Error Of Approximation)		
Estimate	0.051	
90 Percent C.I.	0.050	0.052
Probability RMSEA $\leq$ .05	0.139	
CFI/TLI		
CFI	0.951	
TLI	0.947	
Chi-Square Test of Model Fit for the Baseline Model		
Value	77145.197	
Degrees of Freedom	780	
P-Value	0.000	
SRMR (Standardized Root Mean Square Residual)		
Value	0.036	

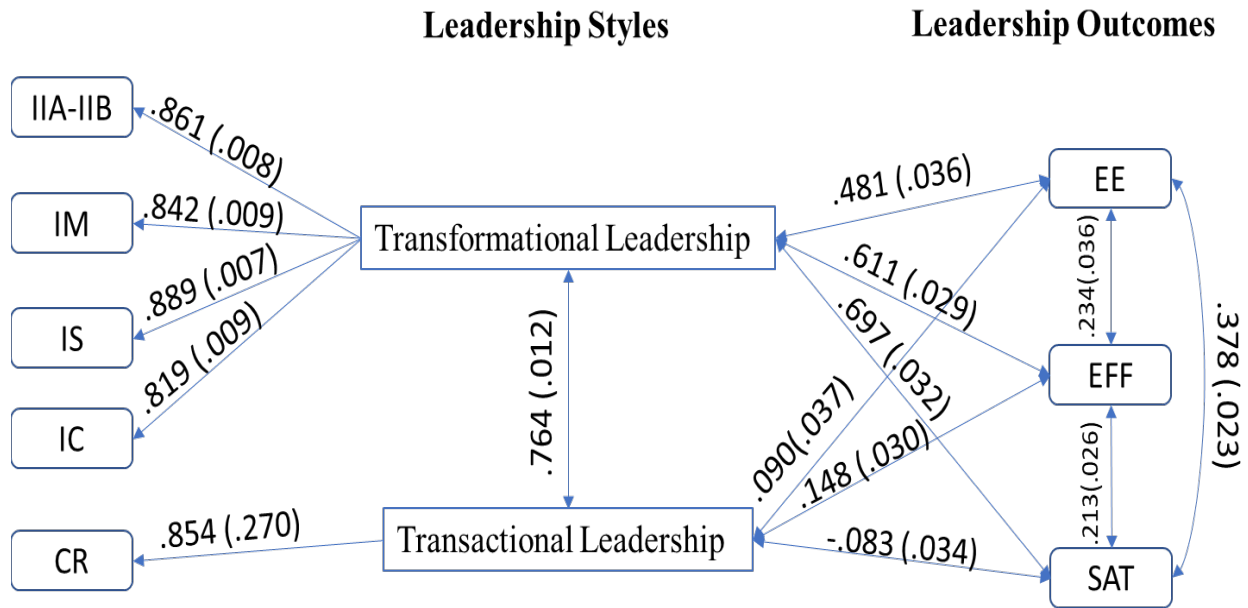
The table 8 illustrates the positive correlation of latent variables with the significant at the 0.01 level (2-tailed).

Table 8: Correlation among Constructs (Latent Variables)

	IIAB	IM	IS	IC	IR	EE	EFF	SAT
IIAB	100							
IM	0.725	100						
IS	0.765	0.749	100					
IC	0.705	0.69	0.729	100				
CR	0.658	0.643	0.680	0.626	100			
EE	0.473	0.462	0.488	0.450	0.457	100		
EFF	0.623	0.609	0.643	0.593	0.614	0.536	100	
SAT	0.545	0.533	0.563	0.519	0.449	0.588	0.566	100

Figure 2 explains how leadership styles impact leadership outcomes. According to Bass and Avolio’s full-range leadership theory, the studied factors of transformational, transactional, and laissez-faire leadership styles are widely applied in western contexts. The findings of this study show that the leadership styles of secondary school principals in Cambodia may range from transactional leadership to transformational leadership. The correlation between transactional and transformational leadership is strong, with a value of .764 (.012), though only one factor of Contingent Reward (CR) remains for transactional leadership. Transformational leadership influences positively on the leadership outcomes of extra effort (EE), effectiveness (EFF), and satisfaction (SAT); while the factor of contingent reward (CR) of transactional leadership impacts strongly positively on extra effort (EE) and negatively on satisfaction (SAT). Therefore, the transformational and transactional leadership styles have a positive impact on their leadership outcomes of extra effort (EE), effectiveness (EFF), and satisfaction (SAT).

Figure 2: Diagram of Structural Equation Model



## 6. Discussion

The study sought to explain the association between leadership styles in practiced and its effectiveness among the followers, namely the teachers. The data shown in the findings indicated the implication of leadership styles in secondary schools and its outcomes influenced teachers. The critical answers to the three research questions are provided in detail in the data presentation. They are 1) What leadership theories (The Bass and Avolio's full-range leadership theory) are manifested in Cambodian secondary schools? 2) How, and to what extent, are managerial and transformational leadership practiced in Cambodian secondary schools? and 3) What is the relationship between these leadership theories and their effectiveness in Cambodian secondary schools? The adaptation of the Multifactor Leadership Questionnaire (MLQ), both leadership constructs and its items widely applied among the developed countries around the world, is also presenting and being able to measure among Cambodian secondary schools' principals.

The results from conducting EFA and CFA methods, the reliability, validity, and path examined on transformational, transactional (focus on managerial tasks), non-leadership styles and its outcomes reflected the structural model. The findings demonstrate that the Multifactor Leadership Questionnaire (MLQ) adapted transformational, transactional (focus on managerial tasks), non-

leadership styles and its outcomes achieved good reliability and validity for the Cambodian school leadership styles. The fit indices revealed the structural model fit with the empirical data well. The findings show that leadership styles of transformational and transactional leadership had a significant influence on leadership outcomes, extra effort, effectiveness and satisfaction of the teachers.

However, the five constructs of transformational leadership were reduced to four due to the combination of idealized influence on attributed and behavior to one factor, while the 23 items remained the same. In the leadership theory, the construct of laissez-faire is statistically absent from the data analysis. In this context, three constructs of transactional leadership also decreased; only the construct of contingent reward (CR) is applicable.

It concludes that in the Cambodian secondary school context, there are 23 items from the four factors of transformational leadership and 5 items of contingent reward or transactional leadership that are suitable to apply. These two leadership styles impact positively on 12 items of extra effort (EE), effectiveness (EFF), and satisfaction (SAT) of the leadership outcomes.

## 7. Conclusion

In the study, the adaptation of the Multifactor Leadership Questionnaire (MLQ) into Khmer and translated back to English is validated to measure the leadership styles of Cambodian secondary school principals. The leadership styles trend to begin from transactional leadership to transformational style, while non-leadership or laissez-faire is absent from the study. The findings also showed that the translated questionnaire had satisfactory validity and reliability.

Regarding transformational leadership, the divisions of idealized influence constructs referred to as “attributed and behavior” were not presented. The data appeared to group them into one construct. The other constructs, such as inspirational motivation, intellectual stimulation, and individualized consideration, were commonly applied among the Cambodian secondary schools’ principals.

Among the three constructs of transactional leadership: contingent reward, management-by-exception active, and management-by-exception passive, only contingent reward was used by the principals, while the application of laissez-faire or non-leadership style was not shown in the study. Data had excluded some constructs of transactional leadership and laissez-faire from the data analysis. The construct of contingent reward remains popular among Cambodian secondary school principals. Thus, the leadership styles of the principals are keen on transitioning from transactional to transformational leadership.

The study shows that secondary schools' principals are attempting to apply both transactional, managerial, and transformational leadership styles to their work in order to lead their followers, "teachers" to achieve the school vision, missions, and values.

The results of the study also indicate that the key items or activities of these two leadership styles are commonly applied in the daily work of Cambodian secondary school principals. In terms of leadership outcomes, there were increased levels of job extra effort, effectiveness, and satisfaction among the teachers in the studied schools. The study also presents the effects of the correlation between transformational and transactional leadership styles and leadership outcomes. It concludes that in the Cambodian high school context, leadership styles begin by mixing the application of transactional leadership and transformational leadership styles. Therefore, these findings are useful for principals, teachers, educators, and educational policymakers to consider in developing school principals' leadership and management skills.

To conclude and recommend that:

- The critical constructs and key items of transformational and transactional leadership styles discovered and experienced in the studied schools should be developed as a school leadership and management training manual and trained to the Cambodian school principals. The key activities applied by principals are important to learn and be shared among Cambodian school leaders.
- The data from this leadership study clearly showed that school leadership begins with transactional leadership, focusing on key autonomous tasks, statistical educational indicators, and resources, and ends with transformational leadership. Principals push the

involvement of teachers, parents, and other stakeholders in order to achieve school missions, values, and vision. These leadership and management skills are important to introduce to effective principals.

- The key activities involved in the application of transformational leadership clearly indicated that the principals play as role models, demonstrate high commitment, and motivate the followers to bring schools to autonomy, accountability, and good governance in the context of educational decentralization.
- Future studies should extend these leadership styles among school leaders at lower secondary schools, primary schools, pre-schools, and educators working for educational organizations at the national and sub-national levels.

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8. Appendices

8.1 Approval Letter from MoEYS



**ព្រះរាជាណាចក្រកម្ពុជា**  
**ជាតិ សាសនា ព្រះមហាក្សត្រ**

**ក្រសួងអប់រំ យុវជន និងកីឡា**  
លេខ: ៧១/២២ អយក.២២៩

ថ្ងៃពុធហាស៊ី ១៣ ខែ វិច្ឆិកា ឆ្នាំ ២០២១ ព.ស.២៥៦៧  
រាជធានីភ្នំពេញ ថ្ងៃទី ០១ ខែ វិច្ឆិកា ឆ្នាំ ២០២១

**ជម្រាបជូន**  
**លោក លោកស្រីប្រធានមន្ទីរអប់រំ យុវជន និងកីឡារាជធានី ខេត្ត**

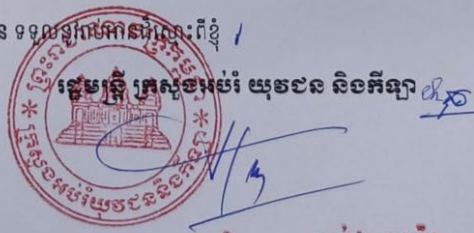
**កម្មវត្ថុ:** សំណើសុំចុះប្រមូលទិន្នន័យ និងចងក្រងឧត្តមានុវត្តន៍ នៃការដឹកនាំ និងគ្រប់គ្រងសាលារៀន ពីគ្រឹះស្ថានមធ្យមសិក្សាចំណេះទូទៅ ដែលជាប់ស្តង់ដារសាលារៀនមានប្រសិទ្ធភាព បានអនុវត្ត គម្រោងកែលម្អការអប់រំមធ្យមសិក្សា (SEIP) របស់ លោក ឃឹម មករា និងលោក ជ័យ រតនា ព្រមទាំងក្រុមការងារចុះសិក្សាស្រាវជ្រាវ។

**យោង:** កិច្ចសន្យារវាង លោក ឃឹម មករា និងអគ្គនិស្សិតរៀននៅសាកលវិទ្យាល័យ Finders University នៃប្រទេសអូស្ត្រាលី។

គបតាមកម្មវត្ថុ និងយោងខាងលើ ខ្ញុំសូមជម្រាបជូន លោក លោកស្រីប្រធាន ជ្រាបថា៖ លោក ឃឹម មករា និងលោក ជ័យ រតនា ជាអគ្គនិស្សិតរៀននៅសាកលវិទ្យាល័យប្រទេសអូស្ត្រាលី បានទទួលការគាំទ្រពី Alumni Research Grants of Australia Awards Cambodia ដើម្បីអនុវត្ត គម្រោងស្រាវជ្រាវខ្នាតតូចមានរយៈពេល៧ខែ គិតចាប់ពីខែមិថុនា ដល់ខែធ្នូ ឆ្នាំ២០២១ ដើម្បី៖១)សិក្សា ចងក្រងពីកត្តាជោគជ័យលើការដឹកនាំ និងគ្រប់គ្រងល្អៗតាមបែប Managerial and Transformational Leadership Styles សាលារៀនមធ្យមសិក្សាចំណេះទូទៅដែលសម្រេចបានស្តង់ដារសាលារៀនមាន ប្រសិទ្ធភាព។ ២) ចែករំលែកបទពិសោធន៍ជោគជ័យ និងឧត្តមានុវត្តន៍ នៃការដឹកនាំ និងគ្រប់គ្រងសាលា រៀននៅក្នុងបរិបទវិជ្ជាជីវៈអប់រំកម្រិតសាលារៀននៅក្នុងព្រះរាជាណាចក្រកម្ពុជា។

អាស្រ័យដូចបានជម្រាបជូនខាងលើ សូម លោក លោកស្រីប្រធាន សម្របសម្រួលសហការ ជាមួយក្រុមចុះសិក្សាស្រាវជ្រាវខាងលើ ដើម្បីអនុវត្តការងារនេះប្រកបដោយជោគជ័យ។

សូម លោក លោកស្រីប្រធាន ទទួលខុសត្រូវលើការងារនេះ ខ្ញុំ ។



**បណ្ឌិតសភាចារ្យ ឈង់ ជួន ណារិន**

**អំណូលទទួល:**

- ខ្នាតស្នាក់នៅឯកឧត្តមបណ្ឌិតសភាចារ្យរដ្ឋមន្ត្រី
- អគ្គនាយកដ្ឋានអប់រំ
- មន្ទីរអប់រំ យុវជន និងកីឡារាជធានី ខេត្ត
- ដើម្បីជ្រាបជាព័ត៌មាន
- កាលប្បវត្តិ
- ឯកសារ នាយកដ្ឋានមធ្យមសិក្សាចំណេះទូទៅ

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អាសយដ្ឋានលេខ៨០ មហាវិថី ព្រះនរោត្តម ភ្នំពេញ កម្ពុជា ទូរស័ព្ទ: (៨៥៥-២៣) ២២០ ៦៧៣ / ២២០ ៣០៤ ទូរសារ: (៨៥៥-២៣) ២១៧ ២៥០ / ២១២ ៥១២  
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### 8.2 Leadership Questions



កម្រងសំណួរវាយតម្លៃ

នៃភាពជាអ្នកដឹកនាំរបស់នាយកសាលារៀន

### 8.3 Data Summary



Reliability\_EFA\_CFA \_  
AVE, CR, MSV, ASV for



Leadership Style on  
Leadership Outcome