Construction and Validation of Nepali Teachers' Self-Efficacy and Classroom Management Practices Instruments Through the E-Delphi Technique

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This study presents the processes applied in developing and validating Nepali Classroom Management Practices (CMPS) and Nepali Teachers' Self-Efficacy (NTSE) instruments. The instruments were developed using the e-Delphi technique. To find the consensus benchmark of the responses, the study used a five-point Likert scale and used Microsoft Excel to analyze responses. The items that achieved a 75% consensus were accepted. Following the interviews and two rounds of questionnaire administration, 28 items from the initial 35 for NTSE and 24 items from the initial 52 for CMP were found to have a high consensus among the experts. Therefore, 28-items NTSE and 24-items CMP instruments were developed to measure Nepali public school teachers' self-efficacy and their classroom management practices. The pilot study results demonstrated that there was strong internal consistency of items with the value of the overall Cronbach's alpha in both scales $\alpha = .86$ (NTSE $\alpha = .77$ and CMP $\alpha = .83$). These scales can be used for educational research projects in Nepal and then be contextualized to use in other countries.

Keywords: e-Delphi, consensus, instruments, internal consistency

INTRODUCTION

Classroom Management Practices and Teachers' Self-Efficacy are two integral concepts for the overall development of students. Bandura (2006) has warned scholars who would carry out research to measure self-efficacy that there was no universal measure of self-efficacy. The level, the strength of self-efficacy, and generality should be considered to have an adequate analysis of the self-efficacy. By level, it means the variations in terms of the level of task difficulties. Generality refers to the transfer of beliefs across different tasks. The degree of certainty over given activities refers to the strength of self-efficacy. These dimensions are measured by items that vary in terms of difficulty, degrees of confidence, and activity-specific (Pajares, 1997; Zimmerman, 2000). The dimensions can also be influenced by the cultural context. Therefore, the local cultural understanding and social economic setting can also influence how effectively the items can measure the self-efficacy of teachers.

Self-efficacy is explained as individuals' personal confidence in their capabilities to carry out actions required to achieve prospective outcomes (Bandura, 2006). Pajares (1997) indicates that self-efficacy impacts how an individual makes choices in terms of activities, efforts they put in, and their ability to deal with a stressful situation. A weak sense of efficacy would mean that an individual would try to evade difficult situations while a stronger level of self-efficacy would stimulate perseverance and motivation (Pajares, 1997). Therefore, self-efficacy should be given a priority while designing teachers training and development programs.

Teachers' self-efficacy denotes judgments that instructors use in their capabilities to carry out certain academic tasks mandated to influence students' academic achievement and learning (Dellinger et al., 2008). Past researchers have found that teachers' self-efficacy is a strong indicator of a variety of outcomes concerning teachers and students (Aldhafri, 2016). In educational research, the measurement of teachers' self-efficacy continues to attract attention. There have been numerous instruments that have been produced to measure the teachers' self-efficacy construct. Some instruments were found to be not aligned with the theoretical frameworks while others were too generic. Two widely used instruments are Bandura's Teaches Self-Efficacy Scale (TSS) with 30 items and Tschannen-Moran and Woolfolk Hoy's Teachers Sense of Efficacy Scale (TSES). While these instruments had had strong internal consistency, they don't necessarily pay attention to the country-specific teaching and learning activities. To comprehensively cover all aspects of teachers' self-efficacy, the researcher used the e-Delphi method to create and validate the items that correspond to Nepali teaching and learning styles.

Management of classroom entails teacher's attitudes, professional values, and capabilities that are tailored to assist them in meeting their academic responsibilities. Classroom management is linked to actions taken by teachers that are aimed at providing an encouraging teaching-learning climate (Djigic & Stojiljkovic, 2011). Teachers' classroom management styles can be categorized into three; participatory, collaborative, and non-intervening (Marti & Baldin, 1993). According to Goddard et al. (2004), teachers with a strong work ethic tend to be good at using techniques that enhance management of classroom practices. Teachers with low level self-efficacy are not succefful in the classroom management effectively. Teachers that have a stronger motivation for work are more structured, they organize activities well, focus on student-centric activities, and listen to student recommendations (Anthony & Kritsonis, 2007). Classroom management is referred to as the most difficult component of teaching, and well-managed classrooms are critical for creating effective learning environments (Akar, 2003). Teachers frequently express their concern about regulating pupils; creating a disciplined setting and maintaining it to produce a proper learning environment from the beginning of their teaching careers (Shin & Koh, 2007). A good student-teachers interaction contributes to developing a positive learning environment which is a basic idea of managing a classroom (Admiraal et al., 1999). Effective classroom management strategies emphasize preventative rather than reactive practices (Lewis & Sugai, 1999). Classroom norms are discussed as opposed to imposed, which is a good example of a widely applied-effective yet preventive technique among primary school instructors (Marzano et al., 2003). Effective classroom management would encourage students' robust participation in classroom learning processes.

As defined by Isuku (2018), classroom management is referred to as the efficient and effective utilization of teaching-learning resources that are available in a classroom to achieve the goals of teaching learning processes. Teachers employ techniques that are necessary for the management of a class to ensure that classes go smoothly even when students are disrupting the class. It also entails ensuring that the students stay interactive and focused. Classroom management is a skill set that teachers use in the classroom to create an effective teaching and learning environment. An effective classroom would mean that students are well organized, attentive, follow the instruction, and remain productive in academics (Isuku, 2018). Martin and Baldwin (1993) have divided classroom management practices into three different ways; interventionist, noninterventionist, and interactionist. Classroom management would also include management of physical space, time, physical resources, human resources, and students' behavior. Therefore, classroom management is connected to designing a productive school climate that supports the implementation of rules developed in the classroom, address conducts that are not conducive, and inspires a students-centric learning environment (Watkins & Wagner, 2000). Teachers' tactics that further address

psycho-social counseling and behavioral methods of assessing students' overall behavior should be included in effective classroom management practices.

Teaching effectiveness is one of the most important aspects of academic study. As seen by student accomplishment, several disciplines are skewed in their descriptions of characteristics that contribute to good teaching-learning practice. Many studies have found that teachers' classroom behaviors are more important than all the other arrangements made by the school administration (Marzano & Marzano, 2003). Teachers can choose from a variety of teaching and learning resources. Some authors emphasize the teacher's characteristics, while others emphasize the teacher's roles and skill set. In the classroom, it is critical to creating the correct environment. To complete this role, the teacher must use constructive and productive interactions with the pupils to administer the school (Saricoban, 2006).

Teacher self-efficacy is one of the important indicators of how instructors understood their confidence to positively bring about behavioral and learning outcomes. Past studies have indicated that teachers' self-efficacy positively impacts or influences how a teacher behaves in a classroom setting and generally, students' learning achievement and motivation (Klassen & Chiu, 2010). Having said that, problems around coherently measuring have remained a continued issue for researchers who have researched teachers' self-efficacy (Hives, 2003). Bandura (1997) remarked that when researchers conduct studies in measuring self-efficacy constructs the tools should be context-specific to an area or a functioning domain rather than a generic phenomenon. A generic self-efficacy tool would include the ability, level, and strength of their skills to teach and motivate students, in the contract a context or domain measures teachers' ability to achieve tasks in a given setting (Reupert & Woodcock, 2010). In this connection, it is important to find a scale that can effectively measure Nepali teachers' self-efficacy in the context of the Nepali educational setting.

Both new and experienced teachers continue to deal with classroom management as an important factor when it comes to teaching and learning management (Rose & Gallup, 2006). According to Lakes and Smith (2002), a well-organized classroom is a prerequisite to enhancing the effectiveness of teaching learning processes in a classroom. In a survey conducted by American Psychological Association (2006), teachers acknowledged instructional skills and management of the classroom as a must to have to manage disruptive attitudes and overall safety of the students in the classroom. Given the high demand for teachers to create a suitable learning ecology, teachers' competency in managing a classroom is essential (Martin et al., 2008). While some existing tools were partly able to measure the classroom management practices such as ABCC and ABCC-R, none have been relevant to Nepal and none have managed classroom practices.

In the Nepalese context, very few researches have been done on the teacher's self-efficacy. The review of the latest Nepalese literature shows that Adhikari (2020) had researched mathematic teachers' self-efficacy. He conducted an adjusted Teachers Self-Efficacy scale containing 15 items among the 214 mathematics teachers in the Kathmandu district. Similarly, Chanakya (2014) conducted a qualitative study on classroom management. There has been no concrete quantitative study that systematically measures classroom management practices.

In Summary, in Nepal, no research has created and measured the teacher self-efficacy and classroom management practices of Nepali secondary schools. Therefore, the main objective of this study was to construct and validate scales that can measure Nepali secondary level teachers' classroom management practices and their self-efficacy.

THE E-DELPHI METHOD

Delphi techniques help achieve consensus on multiple opinions. Experts who have expertise and interest in a field can be selected as a panel. They are invited to provide feedback on the research questions through multiple rounds and their feedback are an unbiased reflection on contemporary knowledge (Keeney et al., 2001). Historically, a paper-based questionnaire was used to collect information from the experts as part of the Delphi processes. As with the evolution of research methods, digital methods, called e-Delphi methods are being used to gain consensus from a panel of experts. The e-Delphi is a method for organizing communication processes of a group in order to deal with an issue (Green, 2014). The e-Delphi technique

permits the participants (experts) to engage and communicate with the researcher at their own pace and time until consensus is reached. Bardhan, Ngeru & Pitts (2012), underscored the importance by stating how e-Delphi method is crucial in this era of technology for conducting evidence-based research because it allows the experts to submit their opinions and it enables participants to post their opinions and accumulate their thoughts online. The e-Delphi technique allows researcher to carry out researches by recruiting experts from far flug regions which ensures geographic diversity of experts and their opinions. The researcher wanted to interview experts from outside of Kathmandu valley and interviewing them was possible only through online mode. Additionally, the e-Delphi methods are famous for a quicker response from the experts, for ensuring anonymity, and for reducing costs or resources (Boulkedid et al., 2011). Therefore, to develop and validate Nepali teachers' classroom management practices and their self-efficacy instruments, the study used the e-Delphi technique.

Design of the e-Delphi Method

The first stage of this study was to set up a virtual discussion with five experts who were purposively selected based on their proven experience in teaching at the secondary level. During the first stage, the researcher hosted virtual discussions with subject matter experts and glean the information related to teachers' self-efficacy and classroom management. This stage is like the classical Delphi method. As opposed to using post-mail as in classical Delphi, the researcher used e-mail, and online survey platforms such as Google Forms, and Zoom platforms to collect data. This is why it's called an e-Delphi method. Donohoe et al. (2012) stated that achieving consensus through a Delphi method remains disputed in the literature. Whetoon and Georgiou (2010) remarked that 75% as the median threshold can provide enough coverage to have a reliable a valid tool. As such, for this study, at the outset, it was decided that the threshold for consensus would be 75% or higher.

Experts Selection for the e-Delphi

For this study, experts were selected at two levels; 1) five experts to participate in the qualitative discussion to unpack the issues related to Teachers' Self-Efficacy and Classroom Management 2) 30 expert teachers who participated in the subsequent two rounds to rate the questionnaires developed because of the first qualitative discussion. The participants in the qualitative discussion had three inclusion criteria met; 1) gender 2) subject-specific heterogeneity 3) location of their workplace. The experts at the qualitative discussion comprised two female and three male teachers who were teaching mathematics, science, English, and social studies within and outside of Kathmandu Valley. Participants were selected for rounds 2 and 3 based on their years of experience and subject-specific diversity. The researcher emailed the experts to recruit and participate in the e-Delphi processes and included items and required information about the consent. Where needed, a follow-up call was made to clarify any confusion. Given their contribution to Nepali public education, the researcher personally knew the experts. For anonymity, the participants were not introduced to each other to ensure unbiased opinions.

To select 30 experts, the selection criteria were a) secondary level teachers with a minimum of 10 years of experience, b) teachers from both rural, semi-urban, and urban parts of Nepal who have 10 years of experience c) interested in the research topic and willing to participate in two rounds to rate the questionnaires to reach a consensus. A diversity in panel representation could provide an unbiased reflection of the contemporary knowledge or perception about the teachers' self-efficacy and their classroom management practices (Keeney et al., 2011).

DATA COLLECTION

The data were collected in three rounds from November 2021 to February 2022 in the form of a virtual meeting, an online survey, and email communication.

Round 1

Exploring contents and issues. Round 1 was carried out through a series of virtual meetings with experts. The experts were contacted via email and requested to participate in a meeting that would explore the issues and contents relating to teachers' self-efficacy and classroom management practices. The email included details about my research ideas and the specific points that the meeting would discuss. The researcher held five 1.5 hrs. meetings to unpack the issues and contents. The virtual meetings were recorded and transcribed. The researcher carried out a content analysis to draft questionnaire items to proceed with round 2.

Round 2

Consensus on the draft questionnaires. After round 1, 30 experts were administered an online survey (Annex I) and requested to rate the items on a five-point liker scale (1- Strongly Disagree (SD), 2- Disagree (D), 3- Neither agree nor disagree (N), 4- Agree (A), 5-Strongly Agree (SA)). Follow-up strategies such as phone calls, email reminders, and social media messages were employed on a fortnightly basis. Quantitative data were collected from round 2. Therefore, to note a consensus of 75%, or greater on each benchmark, the descriptive statistics were applied. The sum, mean, and percentage were calculated in the Microsoft Excel database.

Round 3

Consensus on the questionnaires. Items that did not achieve a minimum consensus level of 75% were removed in round 3. For round 3, 30 experts were administered a survey with 28 items for teachers self-efficacy and 24 items for classroom management practices (Annex II). The panel members were provided with the results and asked to rate the retained items from Round 2. Quantitative data were collected from round 3. Therefore, to note a consensus of 75% or greater on each benchmark, descriptive statistics were applied. The sum, mean, and percentage were calculated in the Microsoft Excel database.

RESULT

Round 1

Qualitative discussions were held with five experts. The data were transcribed and then analyzed and then created items for questionnaires. From Round 1, 34 items for the Teachers Self-Efficacy questionnaire and 64 items for Classroom Management Questionnaire were drafted. Out of 30 experts, 26 responded with an 86% response rate. Some of the probing issues that were explored are listed below:

TABLE 1 QUALITATIVE PROBING QUESTIONS FOR THE E-DELPHI ROUND I

Teacher self-efficacy
Understanding of Teacher self-efficacy
• Why it's essential?
• As a teacher how do you engage students to bring about desired results in them?
• Your ability to timely complete courses, ensure quality and support the students' academic achievement.
• Your approach to handling difficult tasks and regaining strengths from setbacks and disappointment.
• From teachers' perseverance to motivation to commitment, to teaching behavior, the Teachers' self-efficacy is largely connected with numerous educational outcomes.

Classroom Management

- Your relationship management with students in a classroom setting
- Student engagement with classroom tasks.
- Management of behavioral or discipline-related problems.
- Promotion of students' social skills and self-regulation.

Round 2

A total of 98 items of which 34 from teachers' self-efficacy and 64 from classroom management practices were administered. A total of 26 questionnaires were returned in Round 2. During this round, 27 (79%) items from teachers' self-efficacy and 48 (75%) items from classroom management practices achieved consensus at 75% or above. Table 2 (annex III) summarizes the items and their consensus percentage for teachers' self-efficacy questionnaire and table 3 (annex III) summarizes the consensus percentage for classroom management practices.

In Round 2 of the e-Delphi technique, the data gathered were analyzed using Microsoft excel. The average rating number and corresponding % average was taken as the formula to calculate the consensus percentage. Based on the average percentage for each question, TSE5, TSE8, TSE11, TSE 21, TSE22, TSE23, and TSE31 were rejected based on the teachers' self-efficacy scale. The remaining other items from the teachers' self-efficacy questionnaire were found to have 75% or above consensus level among the experts, therefore, these items were taken to Round 3 from the teachers' self-efficacy category. Likewise, items from the classroom management practices questionnaire such as CMP1, CMP2, CMP3, CMP8, CMP12, 16, CMP17, CMP20, CMP23, CMP24, CMP25, CMP34, CMP35, CMP36, CMP37, CMP38, CMP45, CMP47, CMP49 didn't achieve the consensus at 75%, therefore were rejected. The experts didn't rate favorably the items such as "I use chalk and duster for my classroom engagement" "I read newspapers to be aware of contemporary issues" and "punctuality of classwork." Likewise in the classroom management practice questionnaire, the experts didn't rate favorably the items such as assigning seats, appointing classroom representatives, punishing students, using technologies, and becoming gendersensitive in the class.

Round 3

In Round 3, based on the rating received during the Round 2, 28 items for teachers' self-efficacy and 24 items (annex II) for classroom management practices were administered. To refine the items for Round 3, the researcher took experts' feedback during Round 2 into consideration, and questions with similar spirits were merged. That's how even from the accepted items of classroom management, 24 uniquely valuable items were administered. Since the 100% consensus was achieved at this round, no further amendments were put forward. This concluded the e-Delphi procedure.

Pre-Testing of the Instruments

After the e-Delphi processes, the researcher carried out a pilot study to test the content validity and the reliability of the questionnaires. The study administered 54 items to 40 secondary-level public school teachers from across the Kathmandu Valley. A 100% response rate was achieved for both the classroom management practices and teachers' self-efficacy scales. The pilot study included 29 items related to teachers' self-efficacy and 25 items for classroom management practices. The pilot study data were analyzed using the SPSS software. The result from the study showed that the reliability of both questionnaires was 0.86% which is above the threshold alpha value of 70%. The individual reliability alpha value for teachers' self-efficacy scale was 0.77% and for classroom management practices was 0.83%.

TABLE 4 OVERALL RELIABILITY DATA FOR BOTH TEACHERS' SELF-EFICACY AND CLASSROOM MANAGEMENT PRACTICES

Case Processing Summary							
N %							
	Valid	40	100.0				
Cases	Excluded ^a	0	.0				
	Total	40	100.0				
a. Listwise de	eletion based on all variables in the	e procedure.					
	Relia	bility Statistics					
	Cronbach's Alpha	Ν	V of Items				
.860 54							

TABLE 5 RELIABILITY OF TEACHERS' SELF-EFFICACY ITEMS

Case Processing Summary							
N %							
Valid 40 100.0							
Cases	Excluded ^a	0	.0				
	Total	40	100.0				
a. Listwise d	eletion based on all variables in the	e procedure.					
	Relia	ability Statistics					
Cronbach's Alpha N of Items							
	.770 29						

TABLE 6 RELIABILITY OF CLASSROOM MANAGEMENT PRACTICES ITEMS

Case Processing Summary						
		N	%			
	Valid	40	100.0			
Cases	Excluded ^a	0	.0			
	Total	40	100.0			
a. Listwise de	eletion based on all variables in the	procedure.				
	Relia	bility Statistics				
	Cronbach's Alpha	Ν	V of Items			
.835 25						

TABLE 7							
VALIDITY OF THE TOTAL ITEMS							

Correlations						
		Self_efficacy_Total	Classroom_Mgt_Total			
	Pearson Correlation	1	.742**			
Teachers Self-Efficacy Total	Sig. (2-tailed)		.000			
	Ν	40	40			
	Pearson Correlation	.742**	1			
Classroom Management Total	Sig. (2-tailed)	.000				
	Ν	40	40			

**. Correlation is significant at the 0.01 level (2-tailed).

Tables 4, 5, 6, and 7 demonstrate the reliability and validity of the questionnaires developed because of comprehensive e-Delphi processes. Reliability demonstrates the measurement consistency or the accuracy of an instrument (Heale & Twycross, 2015). For this study, the researcher conducted a reliability test using Cronbach's alpha with an acceptable reliability score of 0.7 or higher. Likewise, the content validity of the tools was ensured by using Pearson's Correlation Coefficient. Table 3(annex III) shows the tools were significant at a 0.01 level (2-tailed).

The study conducted item analysis to see if removing any items will help improve the internal consistency or Cronbach alpha value. As demonstrated in table 8 (annex IV), the alpha values didn't suggest removing any items from our finalized questionnaires. The overall alpha value for both scales is 0.86%.

Based on table 8 (annex IV), the items listed are accurately measuring the constructs. For example, an item (#12) that reads "with my experience, I feel confident about what I am teaching" achieved 100% during the third state of e-Delphi processes. The overall Cronbach alpha (α)value of 0.86. The item analysis result indicates that the Cronbach alpha (α)value if deleted the item is 0.85, which means if we delete that item the alpha value won' improve and therefore retained the items and considered a reliable item to measure teachers' self-efficacy. Therefore, the items that achieved 100% consensus during stage 3 of the e-Delphi processes are reliable and could be included to examine teachers' self-efficacy and classroom management practices in the Nepali context.

DISCUSSION

This study aimed to develop and validate questionnaires that measure Nepali teachers' classroom management practices and their self-efficacy. As opposed to two widely used instruments created by Bandura and Tschannen-Moran and Woolfolk Hoy's Teaches Self-Efficacy Scale (TSS) with 30-items and Teachers Sense of Efficacy Scale (TSES) respectively, the tools that the researcher created through this study is more contextual and Nepal specific. Bandura (2001) indicated the level, the strength of selfefficacy, and generality should be considered to have an adequate analysis of the self-efficacy which is why the level, strength, and generality of Nepali public-school teachers have been found different from that developed by western researchers. The panel of experts expressed that structured and more disciplined teaching-learning practices would support develop their self-efficacy. With regards to classroom management practices, Martin et al. (1998) developed the Attitudes and Beliefs on Classroom Control (ABCC) Inventory to measure whether a teacher's management style is interventionist, noninterventionist, or interactionist. In this questionnaire, the classroom management was categorized by three interlinked factors: people management, behavior management, and instruction management. Martin et al. (2007) again revised the ABCC inventory and renamed it ABCC-R with 20 items. This item included only two subscales namely instruction management and instructional management. The classroom management practices questionnaire included detailed qualitative interviews, followed by e-Delphi processes to ensure that the classroom management practices scale measures Nepal-specific context.

CONCLUSION

An e-Delphi method was used to construct and validate Nepali teachers' classroom management practices and their self-efficacy cales. The questionnaires aim to understand teachers' belief in their ability to effectively handle the teaching-learning processes in their class and to explore the techniques that teachers use to keep students focused, organized, and focused to ensure effective delivery. From the first qualitative discussions with experts to the subsequent rounds of the e-Delphi stages, the study incorporated all feedback, comments, suggestions, and opinions from all experts to develop comprehensive tools. This study brought forward two questionnaires that can be used to measure Nepali teachers' self-efficacy and their classroom management practices. This study followed scientific procedures to develop these comprehensive tools so that future studies can continue to build on these tools and make them contextual to the time and context. As the Government of Nepal continues to invest resources in teachers' professional development, these newly established tools can help measure the successes of the training and inform the government's interventions required to make teachers more effective in their classroom engagement. Hence, this study was crucial in constructing instruments to measure teachers' self-efficacy and classroom management practices.

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APPENDIX 1: E-DELPHI TECHNIQUE (ROUND II)

Consent Form

My name is Dhurba Shah. I am a Ph.D. Scholar from Kathmandu University. As part of my studies, I am conducting research on the topic *"Teachers Self-Efficacy and Classroom Management Styles: A Survey of Secondary Level Schools Teachers of Nepal"*. You are identified as an expert to validate if the following items measure teachers' self-efficacy and classroom management practices. Please see the items below and

kindly rate them on the Likert scale between 1 to 5 scale. Please read the questions carefully and complete the e-Delphi questionnaire as fully as you can. Completing this round implies consent to participate. If you have any queries about this research do not hesitate to contact me any time on my cell phone no 9801027967.

SN	Question	Answer
1.	Name of the respondent (optional)	
2.	Name of school	
3.	Address of school	
4.	Types of school	1. Public 2. Private
5.	Sex of respondent	1. Male 2. Female
6.	Caste of respondent	1. Chhetri 2. Brahmin 3. Janjati 4. Dalit 5.
		Madhesi 6. Muslim 7. Others
7.	Age of respondent	Years
8.	Education of respondent	1. Bachelor level 2. Master level 3. M.Phil. 4.
		PhD
9.	Year of experience in teaching sector	Years

Section A: Demographic	information of Respondent
Beechon III Bennogi aping	mior mation of respondent

Section B: Teachers' Self-Efficacy Scale for Secondary Level Teachers in Nepal

Please rate 1-5 for each item. (1- Strongly Disagree (SD), 2- Disagree (D), 3- Neither agree nor disagree (N), 4- Agree (A), 5-Strongly Agree (SA))

SN	Statement	SD	D	Ν	Α	SA
10.	With my experience, I feel confident about what I am teaching	1	2	3	4	5
11.	I prepare for my lessons prior to my class time.	1	2	3	4	5
12.	I feel confident that I can get through difficult topics.	1	2	3	4	5
13.	I design classwork to effectively achieve lesson objectives.	1	2	3	4	5
14.	I can manage the difficult students ruining the class.	1	2	3	4	5
15.	I complete my syllabus/course on time.	1	2	3	4	5
16.	I relate my teaching topic with students' real-life for better learning.	1	2	3	4	5
17.	I prepare teaching materials in advance to teach a lesson.	1	2	3	4	5
18.	Design class to maximize student's participation in class.	1	2	3	4	5
19.	I look for support from my principal if I encounter any problems.	1	2	3	4	5
20.	I wear presentable and confident dress in front of the class.	1	2	3	4	5
21.	I take and remember the names of students so that they feel valued.	1	2	3	4	5
22.	I show respect toward my students through my classroom actions.	1	2	3	4	5
23.	I brainstorm and consult with my fellow teachers to craft classroom	1	2	3	4	5
	rules for better learning.					
24.	I separate my professional and personal obligation while teaching.	1	2	3	4	5
25.	When needed, I can bring my problems to the principals.	1	2	3	4	5
26.	I am confident that I can address classroom problems on my own.	1	2	3	4	5
27.	My students are aware of my expectations of their conduct in the	1	2	3	4	5
	classroom.					
28.	I drive my classes considering the in-depth knowledge of students.	1	2	3	4	5
29.	I use projector and computer for my lesson.	1	2	3	4	5
30.	I encourage active engagement of students to maximize my teaching	1	2	3	4	5
	capabilities.					
31.	My principal is happy with my teaching methodologies.	1	2	3	4	5
32.	My students are happy with my teaching methodologies.	1	2	3	4	5

SN	Statement	SD	D	Ν	Α	SA
33.	My school management committee or relevant authority is happy with	1	2	3	4	5
	how I am helping students learn.					
34.	I can deliver the lessons smoothly and holding students' attention	1	2	3	4	5
35.	I can do dealing with inappropriate or disruptive behaviour calmly and	1	2	3	4	5
	firmly					
36.	I am feeling competent in the management of groups of pupils,	1	2	3	4	5
37.	I can analyze the learning styles of each student in my class room,	1	2	3	4	5
38.	I can transfer my knowledge and skill to the real-life situation of	1	2	3	4	5
	classroom management.					
39.	I provide regular counselling to my student which can have a positive	1	2	3	4	5
	impact on their behaviour,					
40.	I am confident that my teaching increases the student achievement and	1	2	3	4	5
	motivation.					
37. 38. 39. 40.	I can analyze the learning styles of each student in my class room, I can transfer my knowledge and skill to the real-life situation of classroom management. I provide regular counselling to my student which can have a positive impact on their behaviour, I am confident that my teaching increases the student achievement and motivation.	1 1 1 1	2 2 2 2 2	3 3 3 3	4 4 4	

What Other factors contribute to improve teachers' Self-Efficacy?

Section C: Classroom Management Practices of Nepali Secondary Level Teachers

Please rate 1-5 for each item. (1- Strongly Disagree (SD), 2- Disagree (D), 3- Neither agree nor disagree (N), 4- Agree (A), 5-Strongly Agree (SA))

SN	Statement	SD	D	Ν	Α	SA
41.	I appoint class representatives to facilitate the classroom engagement.	1	2	3	4	5
42.	I divide the class into groups.	1	2	3	4	5
43.	I reward positive behavior of the students.	1	2	3	4	5
44.	I greet students when I enter the classroom.	1	2	3	4	5
45.	Students stand up to greet me when I enter the class.	1	2	3	4	5
46.	I set timeline for each learning activity.	1	2	3	4	5
47.	I encourage well-managed behavior within the class itself.	1	2	3	4	5
48.	If the disruptive behavior continues, I report it to the principal.	1	2	3	4	5
49.	I make sure that students are in compliance with my classroom norms.	1	2	3	4	5
50.	I encourage students to ask questions.	1	2	3	4	5
51.	I teach my lesson first and then ask students to ask questions.	1	2	3	4	5
52.	I always assign homework.	1	2	3	4	5
53.	I model discipline in my class so that students behave nicely with each	1	2	3	4	5
	other.					
54.	I initiate class by outlining the session activities of the day.	1	2	3	4	5
55.	I make sure that I remember the names of each and every student in my	1	2	3	4	5
	class.					
56.	I develop specific plan for slow-learners.	1	2	3	4	5
57.	I take classroom engagement into consideration for internal assessment	1	2	3	4	5
	of the students.					
58.	I regularly observe the academic activities of students during the class	1	2	3	4	5
	time,					
59.	I use body or hand movements and facial expressions during teaching,	1	2	3	4	5
60.	I use varieties of learning materials as the learning styles of students,	1	2	3	4	5
61.	I have asked all students to prepare their daily routine,	1	2	3	4	5
62.	I also teach moral education to my students,	1	2	3	4	5
63.	I employ classroom management strategies that are more organized,	1	2	3	4	5
	better planned, student-centered,					
64.	I always encourage students even in their incorrect responses,	1	2	3	4	5

SN	Statement	SD	D	Ν	Α	SA
65.	I have intimate relation with students so that they can openly discuss on their problem,	1	2	3	4	5
	Teaching experiences	1	2	3	4	5
66.	Perceived language proficiency	1	2	3	4	5
67.	Professional capacity building training to teacher	1	2	3	4	5
68.	Personality of teacher	1	2	3	4	5
69.	Motivation in teaching	1	2	3	4	5
70.	Beliefs about the capability to motivate students	1	2	3	4	5
71.	Beliefs about the capability to foster creativity	1	2	3	4	5
72.	Beliefs about the capability to handle difficult students	1	2	3	4	5
73.	Beliefs in one's capabilities to organize and execute the courses of action	1	2	3	4	5
74.	Competence and commitment to teaching	1	2	3	4	5
75.	School's physical facilities	1	2	3	4	5
76.	Teaching materials available in school	1	2	3	4	5
77.	Relationship between management and teacher	1	2	3	4	5
78.	Relationship between teacher and student	1	2	3	4	5
79.	Financial security and family support	1	2	3	4	5
80.	Self-efficacy of teacher affects their classroom management practice	1	2	3	4	5
81.	Controlling disruptive behaviors of students	1	2	3	4	5
82.	Making students follow the rules and regulation of school	1	2	3	4	5
83.	Making sure that the activities performed smoothly	1	2	3	4	5
84.	Instructional behaviors such as responding to student questions	1	2	3	4	5
85.	Instructional behaviors such as asking good questions	1	2	3	4	5
86.	Instructional behaviors such as adjusting the lessons to the level of students	1	2	3	4	5
87.	Knowledge of learning styles of students	1	2	3	4	5
88.	Knowledge of using Information Communication Technology (ICT) in teaching	1	2	3	4	5
89.	Content delivery skill of teacher	1	2	3	4	5
90.	Student's progress monitoring skills of teacher	1	2	3	4	5
<u>9</u> 1.	Availability of teaching resources	1	2	3	4	5
92.	Time management	1	2	3	4	5
93.	Geographical location of the school	1	2	3	4	5

What other factors improve classroom management

practices?.....

Thank you for your active participation.

APPENDIX 2: E-DELPHI TECHNIQUE (ROUND III)

Dear Expert Panel Member,

Re: Teachers Self-Efficacy and Classroom Management Practices Questionnaire

Thank you for submitting the second-round e-Delphi questionnaire. You will now find the following questionnaires which include the items that you have been involved in rating to their importance in measuring teachers' self-efficacy and classroom management practices. Submitting the round 3 questionnaire through this online survey implies your consent to participate. Kindly rate the following items and click the submit button as soon as possible.

Thank you for your continued participation in this study.

	Section A. Demographic information of Respondent						
SN	Question	Answer					
1.	Name of the respondent (optional)						
2.	Name of school (optional)						
3.	Address of school						
4.	Types of school	2. Public 2. Private					
5.	Sex of respondent	2. Male 2. Female					
6.	Caste of respondent	2. Chhetri 2. Brahamin 3. Janjati 4. Dalit 5.					
	_	Madhesi 6. Muslim 7. Others					
7.	Age of respondent	Years					
8.	Education of respondent	2. Bachelor level 2. Master level 3. M.Phil. 4.					
	_	PhD					
9.	Year of experience in the teaching	Years					
	sector						
10.	Levels/Grade of the respondents	1. IIIrd class 2. IInd Class 3. Ist class					

Section A: Demographic information of Respondent

Section B: Teachers' Self-Efficacy Scale for Secondary Level Teachers in Nepal

Please rate 1-5 for each item. (1- Strongly Disagree (SD), 2- Disagree (D), 3- Neither agree nor disagree (N), 4- Agree (A), 5-Strongly Agree (SA)) 6- Not Applicable (NA)

SN	Statement	SD	D	Ν	Α	SA	NA
11.	With my experience, I feel confident about what I am teaching	1	2	3	4	5	6
12.	I prepare for my lessons prior to my class time.	1	2	3	4	5	6
13.	I feel confident that I can easily get through difficult topics.	1	2	3	4	5	6
14.	I can design classwork to effectively achieve lesson objectives.	1	2	3	4	5	6
15.	I can manage the difficult students ruining the class.	1	2	3	4	5	6
16.	I can complete my syllabus/course on time.	1	2	3	4	5	6
17.	I am able to relate my teaching topic with students' real-life for	1	2	3	4	5	6
	better learning.						
18.	I can prepare teaching materials in advance to teach a lesson to the students.	1	2	3	4	5	6
19.	I am able to design classwork in order to maximize student's participation in class.	1	2	3	4	5	6
20.	I can solicit support from my principal if I encounter any problem.	1	2	3	4	5	6
21.	I wear presentable and confident dress in front of the class.	1	2	3	4	5	6
22.	I am able to take and remember names of students so that they feel valued.	1	2	3	4	5	6
23.	During classroom activities, I am able to show respect towards my students.	1	2	3	4	5	6

SN	Statement	SD	D	Ν	Α	SA	NA
24.	I can brainstorm and consult with my fellow teachers to craft	1	2	3	4	5	6
	classroom rules for better learning.						
25.	I am able to separate my professional and personal obligation while	1	2	3	4	5	6
	in classroom.						
26.	I am confident that I can address classroom problems on my own.	1	2	3	4	5	6
27.	My students are aware of my expectations of their conducts in the	1	2	3	4	5	6
	classroom.						
28.	I can drive my classes considering the in-depth knowledge of	1	2	3	4	5	6
	students.						
29.	I can use projector and computer for my lesson.	1	2	3	4	5	6
30.	I can encourage active engagement of students to maximize my	1	2	3	4	5	6
	teaching capabilities.						
31.	I can make my principal happy with my teaching methodologies.	1	2	3	4	5	6
32.	I can make my students happy with my teaching methodologies.	1	2	3	4	5	6
33.	I can make my school management committee or relevant authority	1	2	3	4	5	6
	happy with how I am helping students learn.						
34.	I can make parents happy with my teaching methodologies.	1	2	3	4	5	6
35.	I can deliver the lessons smoothly by holding students' attention.	1	2	3	4	5	6
36.	I can analyze the learning styles of each student and to teach.	1	2	3	4	5	6
37.	I can provide regular counselling to my student which can have	1	2	3	4	5	6
	positive impact on their behaviour,						
38.	I am confident that my teaching increases the student achievement	1	2	3	4	5	6
	and motivation.						
39.	I am able to use my language proficiency to run my classes.	1	2	3	4	5	6

<u>Section C: Classroom Management Practices of Nepali Secondary Level Teachers</u> Please rate 1-5 for each item. (1- Strongly Disagree (SD), 2- Disagree (D), 3- Neither agree nor disagree (N), 4- Agree (A), 5-Strongly Agree (SA)), 6- Not Applicable (NA)

SN	Statement	SD	D	Ν	Α	SA	NA
40.	From among the students, I appoint class representatives and/ or	1	2	3	4	5	6
	monitors to facilitate the classroom engagement.						
41.	I divide the class into groups.	1	2	3	4	5	6
42.	I reward positive behavior of the students.	1	2	3	4	5	6
43.	I greet students when I enter the classroom.	1	2	3	4	5	6
44.	Students stand up to greet me when I enter the class.	1	2	3	4	5	6
45.	I set timeline for each learning activity.	1	2	3	4	5	6
46.	I encourage well-managed behavior within the class itself.	1	2	3	4	5	6
47.	If the disruptive behavior continues, I report it to the principal.	1	2	3	4	5	6
48.	I make sure that students are in compliance with my classroom	1	2	3	4	5	6
	norms.						
49.	I encourage students to ask questions.	1	2	3	4	5	6
50.	I teach my lesson first and then ask students to ask questions.	1	2	3	4	5	6
51.	I always assign homework.	1	2	3	4	5	6
52.	I model discipline in my class so that students behave nicely with	1	2	3	4	5	6
	each other.						
53.	I initiate class by outlining the session activities of the day.	1	2	3	4	5	6
54.	I make sure that I remember the names of each and every student in	1	2	3	4	5	6
	my class.						

SN	Statement	SD	D	Ν	Α	SA	NA
55.	I develop specific plan for slow-learners.	1	2	3	4	5	6
56.	I take classroom engagement into consideration for internal assessment of the students.	1	2	3	4	5	6
57.	57. I regularly observe the academic activities of students during the class time,		2	3	4	5	6
58.	I use body or hand movements and facial expressions during teaching,	1	2	3	4	5	6
59.	I use varieties of learning materials as the learning styles of students,	1	2	3	4	5	6
60.	I have asked all students to prepare their own daily routine,	1	2	3	4	5	6
61.	I also teach moral education to my students,	1	2	3	4	5	6
62.	I always encourage students even in their incorrect responses,	1	2	3	4	5	6
63.	I have intimate relation with students so that they can openly discuss on their problem,	1	2	3	4	5	6
64.	I make seat arrangements for students in my class.	1	2	3	4	5	6

APPENDIX 3

TABLE 2 TEACHERS' SELF-EFFICACY ITEMS FROM ROUND II

Items	Average Likert Scale	Consensus %	Results
TSE1	4.44	80.00	Accepted
TSE2	4.17	75.00	Accepted
TSE3	4.28	77.00	Accepted
TSE4	4.33	78.00	Accepted
TSE5	3.76	67.76	Rejected
TSE6	4.72	85.00	Accepted
TSE7	4.44	80.00	Accepted
TSE8	3.83	69.00	Rejected
TSE9	4.39	79.00	Accepted
TSE10	4.44	80.00	Accepted
TSE11	4.11	74.00	Rejected
TSE12	4.39	79.00	Accepted
TSE13	4.39	79.00	Accepted
TSE14	4.44	80.00	Accepted
TSE15	4.28	77.00	Accepted
TSE16	4.59	82.59	Accepted
TSE17	4.17	75.00	Accepted
TSE18	4.28	77.00	Accepted
TSE19	4.17	75.00	Accepted
TSE20	4.22	76.00	Accepted
TSE21	4.00	72.00	Rejected
TSE22	2.39	43.00	Rejected
TSE23	3.50	63.00	Rejected
TSE24	4.39	79.00	Accepted
TSE25	4.39	79.00	Accepted

TSE26	4.39	79.00	Accepted
TSE27	4.28	77.00	Accepted
TSE28	4.56	82.00	Accepted
TSE29	4.22	76.00	Accepted
TSE30	4.33	78.00	Accepted
TSE31	4.12	74.12	Rejected
TSE32	4.50	81.00	Accepted
TSE33	4.29	77.29	Accepted
TSE34	4.50	81.00	Accepted

TABLE 3 CLASSROOM MANAGEMENT PRACTICES ITEMS FROM ROUND II

Items	Likert scale Average	Consensus %	Results
CMP1	3.94	70.94	Rejected
CMP2	3.22	58.00	Rejected
CMP3	4.06	73.00	Rejected
CMP4	4.39	79.00	Accepted
CMP5	2.83	51.00	Rejected
CMP6	4.22	76.00	Accepted
CMP7	4.78	86.00	Accepted
CMP8	3.83	69.00	Rejected
CMP9	4.22	76.00	Accepted
CMP10	4.56	82.00	Accepted
CMP11	4.17	75.00	Accepted
CMP12	3.94	71.00	Rejected
CMP13	4.39	79.00	Accepted
CMP14	4.61	83.00	Accepted
CMP15	4.39	79.00	Accepted
CMP16	3.78	68.00	Rejected
CMP17	3.94	71.00	Rejected
CMP18	4.17	75.00	Accepted
CMP19	4.39	79.00	Accepted
CMP20	3.00	54.00	Rejected
CMP21	4.28	77.00	Accepted
CMP22	4.17	75.00	Accepted
CMP23	4.11	74.00	Rejected
CMP24	1.89	34.00	Rejected
CMP25	4.06	73.00	Rejected
CMP26	4.39	79.00	Accepted
CMP27	4.56	82.00	Accepted
CMP28	3.72	67.00	Rejected
CMP29	4.11	74.00	Rejected
CMP30	4.50	81.00	Accepted
CMP31	4.39	79.00	Accepted
CMP32	4.50	81.00	Accepted
CMP33	4.39	79.00	Accepted
CMP34	3.83	69.00	Rejected
CMP35	3.94	70.88	Rejected

CMP36	2.76	49.76	Rejected
CMP37	2.24	40.24	Rejected
CMP38	3.12	56.12	Rejected
CMP39	4.47	80.47	Accepted
CMP40	4.18	75.18	Accepted
CMP41	4.29	77.29	Accepted
CMP42	4.47	80.47	Accepted
CMP43	4.53	81.53	Accepted
CMP44	4.53	81.53	Accepted
CMP45	4.06	73.06	Rejected
CMP46	4.35	78.35	Accepted
CMP47	4.12	74.12	Rejected
CMP48	4.71	84.71	Accepted
CMP49	4.06	73.06	Rejected
CMP50	4.29	77.29	Accepted
CMP51	4.35	78.35	Accepted
CMP52	4.67	84.00	Accepted
CMP53	4.71	84.71	Accepted
CMP54	4.53	81.53	Accepted
CMP55	4.41	79.41	Accepted
CMP56	4.65	83.65	Accepted
CMP57	4.35	78.35	Accepted
CMP58	4.18	75.18	Accepted
CMP59	4.41	79.41	Accepted
CMP60	4.24	76.24	Accepted
CMP61	4.24	76.24	Accepted
CMP62	4.35	78.35	Accepted
CMP63	4.71	84.71	Accepted
CMP64	4.29	77.29	Accepted

APPENDIX 4

TABLE 8 ITEM ANALYSIS- NEPALI TEACHERS' SELF-EFFICACY AND CLASSROOM MANAGEMENT PRACTICES TOOLS

Item-Total Statistics								
	Scale Mean if	Scale Variance	Corrected Item-	Cronbach's Alpha if				
	Item Deleted	if Item Deleted	Total Correlation	Item Deleted				
Teachers' self-efficacy	226.0	427.8	0.6	0.9				
q12	225.9	426.3	0.7	0.9				
q13	225.9	434.6	0.6	0.9				
q14	225.9	435.0	0.6	0.9				
q15	226.0	438.1	0.5	0.9				
q16	225.9	434.5	0.5	0.9				
q17	226.0	432.5	0.6	0.9				
q18	226.0	435.1	0.6	0.9				
q19	225.9	434.6	0.6	0.9				
q20	225.6	447.1	0.3	0.9				

q21	225.8	436.6	0.4	0.9
q22	226.0	425.1	0.8	0.9
q23	225.8	447.5	0.2	0.9
q24	226.0	434.2	0.7	0.9
q25	225.1	399.2	0.1	0.9
q26	226.1	444.3	0.3	0.9
q27	226.3	446.6	0.2	0.9
q28	225.9	433.7	0.6	0.9
q29	226.7	427.4	0.6	0.9
q30	226.0	433.4	0.6	0.9
q31	226.1	424.7	0.8	0.9
q32	225.9	445.5	0.3	0.9
q33	226.0	447.4	0.2	0.9
q34	226.1	430.8	0.7	0.9
q35	225.8	446.4	0.3	0.9
q36	226.0	439.2	0.5	0.9
q37	226.1	428.4	0.7	0.9
q38	226.2	427.0	0.8	0.9
q39	226.1	441.6	0.4	0.9
Classroom	226.2	105.5	0.4	0.0
Management	226.3	435.7	0.4	0.9
q41	226.1	449.5	0.1	0.9
q42	226.0	449.1	0.2	0.9
q43	226.1	436.4	0.6	0.9
q44	225.7	449.9	0.1	0.9
q45	226.1	431.7	0.7	0.9
q46	225.8	447.8	0.2	0.9
q47	226.0	451.3	0.0	0.9
q48	226.0	431.8	0.7	0.9
q49	226.0	433.4	0.7	0.9
q50	225.9	452.7	0.0	0.9
q51	226.2	450.3	0.1	0.9
q52	225.9	434.6	0.6	0.9
q53	226.1	436.5	0.5	0.9
q54	226.1	449.1	0.1	0.9
q55	226.0	448.2	0.2	0.9
q56	226.0	431.5	0.7	0.9
q57	226.0	434.5	0.6	0.9
q58	226.0	448.3	0.2	0.9
q59	226.1	450.4	0.1	0.9
q60	226.2	433.7	0.7	0.9
q61	226.0	449.5	0.2	0.9
q62	226.1	437.0	0.5	0.9
q63	226.1	435.9	0.4	0.9
q64	226.0	449.2	0.2	0.9