Pharmacy, nursing, and physician assistant studies student self-report and perceptions regarding classroom etiquette

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Abstract

Introduction: The study aimed to investigate pharmacy, physician assistant studies, and nursing students' self-report regarding their classroom etiquette and perceptions regarding classroom etiquette. **Methods:** A survey regarding classroom etiquette was administered to first year pharmacy, physician assistant studies, and nursing students. Statistical analysis was performed to determine differences among various student behaviors and perceptions, and among students of the three academic programmes. **Results:** Most students (>84%) indicated that arriving late to class, leaving the classroom during lecture without returning, initiating a conversation with a peer during lecture, and conducting non-class-related activities with electronic devices during lecture are unprofessional. Students self-reported that tardiness and leaving and returning to the classroom during lecture are not rare. Most students (52%) indicated that it is acceptable to have a conversation with a peer while the professor is teaching if the conversation is directly related to the lecture material. Some students (27%) indicated that the non-class-related activities that they conduct during lecture using their laptop or tablet device affected their academic performance. More students reported their academic performance is adversely affected by non-academic use of laptop or tablet device compared to the use of cell phones. **Conclusion:** This study suggests there are opportunities to improve student classroom etiquette in various academic settings. Moreover, it may bring a greater awareness to the issue of classroom etiquette, and thereby encourage faculty and administration to evaluate, and/or better enforce policies related to classroom etiquette.

Introduction

Traditionally in higher education, a primary role of college instructors is to educate students on a specific subject matter. To meet this objective, instructors are expected to establish and maintain appropriate classroom etiquette (Flanigan & Kiewra, 2018). When appropriate classroom etiquette is maintained, students behave in a civil manner that facilitates self-learning and does not interfere with other student learning or with the instruction (Tom, 1998). It has been suggested that student engagement in uncivil behaviours such as tardiness and the non-academic use of electronic devices

during class may directly interfere with self-learning and other student's learning (Sana, Weston, & Cepeda, 2013; Gaudreau, Miranda, & Gareau, 2014; Aagaard, 2015; Taneja, Fiore, & Fischer, 2015). Additionally, it may adversely affect class instruction (Feldmann, 2001; Morrissette, 2001; Wei, Wang, & Klausner, 2012). Such conduct shifts the instructor's attention from the subject matter toward the disruptive behaviour and the appropriate way to address it (Ali & Smith, 2014).

In recent decades technological advancements have transformed the classroom, as most students in contemporary classrooms are equipped with at least one and usually more than one electronic device that may support learning (Sana *et al.*, 2013). For example, a laptop can support note-taking (Spies, 2010; Sana *et al.*, 2013; Spallek & von Bergmann, 2014; Aagaard, 2015), and smartphones can facilitate student engagement and polling (Imazeki, 2014; Pistilli & Cain, 2016; Ma *et al.*, 2018). In addition, many institutions video record classes to benefit students who are unable to attend class and support students who need to review class material (Bos *et al.*, 2016). However, there are several disadvantages to using electronic devices and technology in the classroom. For example, instantaneous and convenient access to the internet, email, and social media can distract students (Sana *et al.*, 2013). Students may feel free or obligated to make or respond to phone calls or text messages during class time (Sana *et al.*, 2013; Burke *et al.*, 2014; Miller *et al.*, 2014). Furthermore, the availability of video recordings may obviate the need to attend class or reduce the need to pay attention to the instructor (Bos *et al.*, 2016; Kwiatkowski & Demirbilek, 2016; O'Callaghan *et al.*, 2017).

Challenges to the maintenance of appropriate classroom etiquette are not new and predate the technological advancements that laid the foundations for the contemporary classroom (Emerick, 1994; Wright, Perry, & Barnett, 2011; Knepp, 2012; Burke *et al.*, 2014; Pistilli & Cain, 2016; Flanigan & Kiewra, 2018). However, classroom distractions that stem from non-academic uses of electronic devices may compound, rather than replace, other unprofessional behaviours (Miller *et al.*, 2014; Pistilli & Cain, 2016; Flanigan & Kiewra, 2018). According to some reports, faculty perceive that classroom distractions are becoming more common (Knepp, 2012; Clark, 2017).

Creating and maintaining appropriate classroom etiquette requires a better understanding of the nature and extent of unprofessional student behaviours and student perceptions about professional and unprofessional behaviours. Studies reported in the literature about classroom etiquette have been conducted in various disciplines, including radiography (Clark, 2017), nursing (Suplee *et al.*, 2008), business

(Burke *et al.*, 2014), and social work (Ausbrooks, Jones, & Tijerina, 2011). However, the authors were unable to locate any studies in the existing literature that 1) compared the classroom etiquette across multiple disciplines, especially in healthcare professions; or 2) examined student self-report regarding their familiarity with the concept of classroom etiquette, the extent of discourteous student behaviour in the classroom, and its possible effect on learning.

Therefore, the major aim of the study was to investigate pharmacy, physician assistant studies (PA), and nursing students' self-report regarding their classroom etiquette and their perceptions regarding classroom etiquette. Areas of classroom etiquette the study aimed to investigate included 1) student perceptions about classroom professionalism; 2) student arrival to class on time and remaining seated during class time; 3) student discussions during lecture; and 4) non-academic uses of electronic devices in the classroom. The information obtained from the study regarding classroom etiquette in various academic programs may provide instructors with a greater awareness of classroom etiquette from the students' perspective. This may encourage instructors to better create classroom environments that are conducive to student learning.

Methods

Survey instrument

The study design was based on a survey instrument that aimed to investigate students about various aspects of classroom etiquette. A literature review that considered articles in the field identified a few relevant and fine survey instruments (Paik & Broedel-Zaugg, 2006; Sana *et al.*, 2013; Gaudreau *et al.*, 2014); however, none of the survey instruments directly addressed the aims of the study. Hence, a survey instrument was designed by the principal investigator. The survey instrument was reviewed by the co-authors for content validity of the items, with a subsequent discussion between the authors and implementation of changes as discussed. Next, a draft of the survey instrument was shared with five other faculty members and one student for further suggestions for improvement. All authors reviewed the feedback provided, and it was collectively decided which recommendations to implement.

The survey questions appear in Table I to Table VI. The survey encompassed major domains in classroom etiquette such as tardiness, leaving class early, student discussions during lecture (Emerick, 1994; Paik & Broedel-Zaugg, 2006; AlKandari, 2011; Clark, 2017), and cyberslacking (Taneja *et al.*, 2015; Clark, 2017; Flanigan & Kiewra, 2018).

Survey approval and administration

The study protocol was approved by the Institutional Review Board (IRB) of South College. First-year students from pharmacy (n=81, studying toward a Doctor of Pharmacy), PA (n=77, studying toward a Master of Health Science in Physician Assistant Studies), and nursing (n=34, studying toward a Bachelor of Science in Nursing) programmes from South College were invited to participate in the study. These programmes were chosen for the study because they represent healthcare programmes that lead to degrees of various educational levels: Doctoral degree, master's degree, and bachelor's degree. In addition, these programmes are the only on-ground health programmes of South College that lead to a bachelor's degree or higher. Surveys for students from the three programmes were administered with a convenience sampling technique to students who started their academic programme in the summer or autumn of 2017. Surveys were administered via Qualtrics during the last three weeks of the third quarter of each programme: In March 2018 for pharmacy students and in June 2018 for PA and nursing students. Pharmacy students were allotted time to complete the survey during class time, whereas PA and nursing students completed the survey as an extra-curricular activity. Pharmacy and PA students who completed the survey were given extra credit in a course. Nursing students who completed the survey were given a nominal gift card. Only students who provided written consent were enrolled in the study.

Statistical analysis

Statistical analyses of ordinal data were performed using the Chi-square test for trend. Such data can be seen in Table I Question 3, Table II Question 2, Table III Questions 1-3, Table IV Questions 1-2, and Table V and Table VI Question 1. Statistical analyses of categorical data were performed using Fisher's exact test. The analysis of continuous data to identify differences in the ages between students of the three programmes (Table I Question 1) was conducted using Analysis of Variance with subsequent Tukey-Kramer multiple comparisons test. GraphPad InStat (GraphPad Software, La Jolla, CA, USA) was used for analyses of continuous data and ordinal data and to conduct Fisher's exact test where categorical data could be presented as a 2 x 2 contingency table. Categorical data that required presentation as a larger contingency table were analyzed using Fisher's exact test in SAS (SAS Institute Inc., Cary, NC, USA). In the data analysis, a statistical significance was set at $p<0.05$.

Results

Demographic information of student populations and response rates

Demographic information of student populations and response rates are presented in Table I. Students from pharmacy, PA, and nursing programmes had the same median age of 24 years. However, the average nursing student was three years older ($p<0.05$) than pharmacy and PA students, a finding that was due to the influence of several older students. There was a significant difference ($p<0.05$) in the academic background of students in different academic programmes as the PA programme requires a bachelor's degree as a pre-requisite for admissions into the programme, whereas the pharmacy and nursing programmes do not. The overall response rate was 79%.

Table I: Demographic information of student populations and response rates

Question		Pharmacy	PA	Nursing	All responders
1. Age (mean (standard deviation), median)*		25 (3), 24	25 (2), 24	28 (8), 24	25(4), 24
2. Females in class, %[†]		62	81	87	72
3. Highest academic degree, %[‡]	Associate degree or no degree	41	0	61	29
	Bachelor's degree	57	93	39	67
	Master's degree or doctoral degree	3	7	0	4
4. Response rate, % (number of responders)		94 (76)	74 (57)	67 (23)	79 (156)

*Nursing students are different from pharmacy students and PA students, $p<0.05$

[†]Pharmacy students are different from PA students and nursing students, $p<0.05$

[‡] Physician assistant studies students are different from pharmacy students and nursing students, $p<0.05$

Perceptions about professionalism and student familiarity with the concept of classroom etiquette

Perceptions about professionalism and student familiarity with the concept of classroom etiquette are presented in Table II. Most students (77%) heard about the concept of classroom etiquette after they started their programme at South College. In addition, most students (77%) heard about the concept of classroom etiquette during the four years before they started their professional programme at South College. Only a

small proportion of students (≤16%) indicated that arriving late to class, leaving the classroom during lecture without returning, initiating a conversation with a peer during lecture, or conducting non-class-related activities during lecture, are professional behaviours.

Table II: Perceptions about professionalism and student familiarity with the concept of classroom etiquette

Question		Pharmacy	PA	Nursing	All responders
1. Percent of students who heard about the concept of classroom etiquette after they started their professional program with South College		77	84	61	77
2. Prior to starting your professional program with South College, when was the last time the concept of classroom etiquette was introduced or reinforced to you? (%)	1 year	42	30	43	38
	2 years	17	28	9	19
	3-4 years	17	19	35	20
	5 years or longer	24	23	13	22
3. Indicate whether the activities below are professional or unprofessional (% professional)					
3a. Arriving late to class		4	4	0	3
3b. Leaving the classroom during lecture without returning (not due to extenuating circumstances)		11	4	0	6
3c. Initiating a conversation with a peer during lecture*		24	11	4	16
3d. Conducting non-class-related activities (e.g., with laptop, tablet device, or cell phone) during lecture		14	5	0	8

*Pharmacy students are different from nursing students, $p<0.05$

Student arrival to class on time and remaining seated during class time

Student perspectives regarding arrival to class on time and remaining seated during class time are presented in Table III. A large proportion of students (42%, Question 1) arrive late to class at least once or twice every quarter (this number combined 11% of students who arrive late to class at least once every 2-3 weeks with 31% of students who arrive late to class once or twice every quarter). The frequency of late arrival to class was greater ($p<0.05$) for pharmacy students than for PA students. Most students (77%) indicated that they leave and return to the classroom at least once or twice every quarter. Only a small proportion of students (15%) leave the classroom prior to the end of the lecture and do not return at a frequency of at least once or twice every quarter.

Table III: Student arrival to class on time and remaining seated during class time

Question	Answer choice	Pharmacy	PA	Nursing	All responders
1. How frequently do you arrive late to class? (%)*	At least once every 2-3 weeks	14	9	8	11
	Once or twice every quarter	40	19	33	31
	Never	46	72	58	58
2. How frequently do you leave and return to the classroom during lecture? (%)	At least once every 2-3 weeks	41	51	26	42
	Once or twice every quarter	33	30	57	35
	Never	26	19	17	22
3. How frequently do you leave the classroom prior to the end of the lecture and not return? (%)*	At least once every 2-3 weeks	11	0	4	6
	Once or twice every quarter	14	4	9	9
	Never	75	96	87	84
4. Do you think that a student who arrives late to class interferes with the learning process of their peers? (% who responded yes)		51	68	61	59
5. Do you think that a student who leaves the classroom during lecture interferes with the learning process of their peers? (% who responded yes)		37	40	39	38

*Pharmacy students are different from PA students, $p<0.05$

Student discussions during lecture

Student perspectives regarding discussions that occur during lecture are presented in Table IV. Most students (70%) initiate a conversation with a peer during lecture at least once a week. The frequency that pharmacy students report that a peer initiates a conversation with them was greater ($p < 0.05$) than the corresponding reports by PA students and nursing students. Most students (52%) indicated it is acceptable to have a conversation with a peer while the professor is teaching if the conversation is directly related to the lecture material. Most students indicated if they initiate a conversation with a peer during lecture that the conversation disturbs their peer (66%), and a conversation among two or more students that takes place within their vicinity during lecture interferes with their own learning process (68%). The proportion of nursing students who indicated a conversation between two or more students that takes place in their vicinity during lecture, interferes with their learning process or disturbs other classmates in their immediate vicinity was significantly greater ($p < 0.05$) than the proportion of pharmacy students or PA students who had the same perception.

Table IV: Student discussions during lecture

Question	Answer choice	Pharmacy	PA	Nursing	All responders
1. How frequently do you initiate a conversation with a peer during lecture? (%)	At least a few (2-3) times a day	26	16	9	20
	Once a day or once every few (2-3) days	26	25	17	24
	Approximately once a week	26	26	26	26
	Never	23	33	48	30
2. During lecture, how frequently does a peer initiate a conversation with you? (%)*	At least a few (2-3) times a day	38	23	22	30
	Once a day or once every few (2-3) days	36	28	13	30
	Approximately once a week	14	33	39	25
	Never	12	16	26	15
3. Is it acceptable to have a conversation with a peer while the professor is teaching? (%)	Yes	5	2	0	3
	Only if the conversation is directly related to the lecture material	51	51	58	52
	No	44	47	42	45
4. If you initiate a conversation with a peer during lecture do you think that it disturbs that peer? (% who responded yes)		63	67	74	66
5. Do you think that a conversation between two or more students that takes place in your vicinity, during lecture, interferes with your learning process? (% who responded yes)†		62	68	91	68
6. If you initiate a conversation with a peer during lecture do you think that it disturbs other classmates in your immediate vicinity? (% who responded yes)†		62	71	96	70

* Pharmacy students are different from PA students and nursing students, *p<0.05*
† Nursing students are different from pharmacy students and PA students, *p<0.05*

Non-academic uses of laptop and tablet device in the classroom

Student perspectives regarding non-academic uses of laptop and tablet device in the classrooms are presented in Table V. Eighty-one per cent of students use laptop and tablet device for non-academic purposes in the classroom at least once every two to three days or approximately once a week. Twenty-seven per cent of students indicated that non-class-related activities they conduct during lecture with their laptop or tablet device affect their academic performance. Twenty-five per cent of students indicated that non-class-related activities a peer conducts in their immediate vicinity with their laptop or tablet device affects their academic performance, or the non-class-related activities they conduct during lecture may affect their peers.

Among all the mentioned comparisons for Table V, there were significant differences ($p < 0.05$) between pharmacy, PA, and nursing students. The frequency of nursing students who reported they use their laptop or tablet device for non-class-related activities during lecture was significantly smaller ($p < 0.05$) compared to corresponding responses from pharmacy or PA students. Compared to PA or nursing students, a significantly smaller ($p < 0.05$) proportion of pharmacy

students (22%) indicated that non-class-related activities they conduct during lecture using laptop or tablet device affect their academic performance. Compared to pharmacy or PA students, a significantly greater (*p*<0.05) proportion of nursing students (54%) indicated that non-class-related use of laptop or tablet device by a peer in their immediate vicinity affects their academic performance; similarly, a significantly greater (*p*<0.05) proportion of nursing students (35%) indicated that their use of laptop or tablet device during lecture for non-class-related activities may disturb their peer(s).

Table V: Non-academic uses of laptop and tablet device in the classroom

Question	Answer choice	Pharmacy	PA	Nursing	All responders
1. How frequently do you use your laptop or tablet device for non-class-related activities (e.g., Facebook, email, shopping) during lecture? (%)*	At least once a day	52	65	17	52
	Once every 2-3 days or approximately one a week	22	33	43	29
	Never	27	2	39	19
2. Do you think that the non-class-related activities (e.g., web surfing, checking email, social media) that you conduct during lecture using your laptop or tablet device affects your academic performance? (%)*	Yes	22	32	32	27
	No	60	65	23	56
	I don't conduct non-class-related computer activities during lecture	18	3	45	17
3. Do you think that the non-class-related activities that a peer in your immediate vicinity conducts during lecture with their laptop or tablet device affects your academic performance? (%)*	Yes	18	23	54	25
	No	77	75	46	72
	My neighbors don't conduct non-class-related computer activities during lecture	5	2	0	3
4. Do you think that the non-class-related activities that you conduct during lecture with your laptop or tablet device may disturb your peer(s)? (%)*	Yes	19	28	35	25
	No	63	68	30	60
	I don't conduct non-class-related computer activities during lecture	18	4	35	15

* Students from each program are different from students from the other programs, *p*<0.05

Non-academic uses of cell phones in the classroom

Student perspectives regarding non-academic uses of cell phones in the classroom are presented in Table VI. Sixty-four per cent of students use cell phones for non-academic activities in the classroom at least once every two to three days or approximately once a week. Eighteen per cent of students indicated that their use of cell phones during lecture for non-class-related activities affects their own academic performance. Seventeen per cent of students indicated that the use of cell phones by a peer in their immediate vicinity for non-class-related activities affects their academic performance. Eleven per cent of students indicated that their own use of a cell phone for non-class-related activities during lecture may affect their peers.

When taken together, the data in Table VI indicate that there were significant differences (*p*<0.05) between PA students, and pharmacy or nursing students. The frequency that PA students reported they use their cell phones for non-class-related activities during lecture was significantly smaller (*p*<0.05) compared to such reports by pharmacy or nursing students. Compared to nursing students, a significantly smaller (*p*<0.05) proportion of PA students indicated a) the non-class-related activities they conduct during lecture using their cell phones affects their academic performance; b) the non-class-related activities conducted by a peer in their vicinity with their cell phone affects their academic performance; and c) the non-class-related activities they conduct during lecture with their cell phone may disturb their peer(s).

Discussion

Most reports in the literature regarding classroom etiquette discuss either traditional aspects of classroom etiquette such as student discussions during lecture (Ziefle, 2018) or non-academic-uses of electronic devices (Sana *et al.*, 2013; Gaudreau *et al.*, 2014). The present study is unique because it marries traditional aspects of classroom etiquette and non-academic uses of electronic devices into one theme. Another unique aspect is the comparison between student practices and perceptions regarding classroom etiquette of three different healthcare programmes from the same institution.

Table VI: Non-academic uses of cell phones in the classroom

Question	Answer choice	Pharmacy	PA	Nursing	All responders
1. How frequently do you use your cell phone for non-class-related activities (e.g., Facebook, email, shopping) during lecture? (%)*	At least once a day	55	25	39	42
	Once every 2-3 days or approximately one a week	27	9	39	22
	Never	18	67	22	36
2. Do you think the non-class-related activities that you conduct during lecture with your cell phone (e.g., web surfing, checking email, social media) affects your academic performance? (%)†	Yes	15	10	48	18
	No	71	30	35	51
	I don't conduct non-class-related cell phone activities during lecture	14	60	17	31
3. Do you think the non-class-related activities that a peer in your immediate vicinity conducts during lecture with their cell phone affects your academic performance? (%)*	Yes	12	19	30	17
	No	83	51	70	70
	My neighbors don't conduct non-class-related cell phone activities during lecture	5	30	0	13
4. Do you think the non-class-related activities that you conduct during lecture with your cell phone may disturb your peer(s)? (%)*	Yes	10	10	17	11
	No	75	35	61	58
	I don't conduct non-class-related cell phone activities during lecture	14	55	22	30

* PA students are different from pharmacy students and from nursing students, $p<0.05$
† Students from each program are different from students from the other programs, $p<0.05$

The results of this study show that students from three academic programmes perceive their exposure to the concept of classroom etiquette during either their South College program or during previous academic experiences in a similar manner (Table II). The results also show differences between students from three healthcare programmes, pharmacy, PA, and nursing, regarding classroom etiquette and their perceptions about it (Table II to Table VI). Some variability shown in the results may be attributed to certain differences between the programmes, such as the nature of the programme, the demographics of student populations, the classroom facilities that each programme uses, and the classroom etiquette expectations as outlined in student handbooks and course syllabi.

The PA programme requires a bachelor's degree as a pre-requisite for admissions into the programme, whereas the pharmacy and nursing programmes do not. The fact that students within the PA programme earned a significantly higher (Table I) academic degree before entering their professional programme may affect their classroom etiquette as well as perceptions about classroom etiquette. This criterion may explain why PA students report a significantly smaller tendency than pharmacy students to arrive late to class or leave the classroom prior to the end of the lecture without returning to the classroom (Table III).

The classrooms provided for the PA and nursing programmes are of sufficient size to seat the number of students in class with the instructor in close proximity to the students. In contrast, the pharmacy students sit in an auditorium with substantially more unoccupied seats, and the instructor stands on a large and elevated stage that is relatively distant from most of the students. In such a classroom, it is anticipated that students may feel that instructors are less likely to notice unprofessional behaviour during lecture. This difference may serve as an additional explanation for the significantly greater tendency of pharmacy students to arrive late to class compared to PA students (Table III). Differences in the physical facilities between the three programmes may also contribute to the significantly greater frequency for pharmacy students to report the instance of a peer-initiated conversation as compared to such reports by PA students or nursing students (Table IV).

A limitation of this study is that it is uncertain that results from this study may be generalized to other academic programmes (Gaudreau *et al.*, 2014) and even to corresponding academic programmes at other institutions. For example, professionalism standards in other programmes and institutions may affect classroom etiquette; and varying student demographics in schools of pharmacy such as those schools that require a bachelor's degree as a pre-requisite for admissions into the programme may affect student classroom etiquette and their perceptions about it. Moreover, this study focused on first-year students while it was shown that the perceptions of classroom etiquette may differ at various stages of an academic programme, even within the same institution (Paik & Broedel-Zaugg, 2006).

Additional limitations that are specific to the study methodology are that responses to some survey questions may have been more accurate by requesting the student responders to record their activities during

class time; and although the survey instrument underwent multiple reviews, it was not validated by its administration to a group of potential responders (Artino *et al.*, 2014).

Non-class-related activities, including those that involve the use of electronic devices, are undesirable since students reported in this study for pharmacy, PA, and nursing programmes, and the literature also suggests for other academic programmes that such activities may adversely affect student academic performance (Sana *et al.*, 2013; Gaudreau *et al.*, 2014; Aagaard, 2015; Taneja *et al.*, 2015). Non-class-related activities are also not rare, as shown in this study for pharmacy, PA, and nursing programmes, as well as in reports in the literature regarding other academic programmes (Burke *et al.*, 2014; Gaudreau *et al.*, 2014; Aagaard, 2015; Taneja *et al.*, 2015; Clark, 2017). Overall, efforts should be conducted to reduce non-class-related activities. This goal can be achieved by 1) the education of students regarding appropriate classroom etiquette; 2) the construction of respectful classroom environments; 3) the modification of academic demands (Gaudreau *et al.*, 2014); 4) the development of teaching strategies with greater emphasis on student engagement (Wright *et al.*, 2011; Wei *et al.*, 2012; Taneja *et al.*, 2015); or 5) the implementation of active learning approaches in the classroom (Pistilli & Cain, 2016). Finally, examples of venues that may be used to emphasise to students the importance of following appropriate classroom etiquette include orientation programmes (AlKandari, 2011), student handbooks (Bayer & Braxton, 2004), courses about professionalism, course syllabi (Damour, 2008; AlKandari, 2011; Baker, Lusk, & Neuhauser, 2012; Knepp, 2012; Ali & Smith, 2014; Taneja *et al.*, 2015; Clark, 2017), and through direct discussion during class instruction (AlKandari, 2011; Baker *et al.*, 2012; Clark, 2017).

This study may bring greater awareness among faculty and administration to the issue of classroom etiquette and encourage them to evaluate their policies related to classroom etiquette and/or to better enforce those policies (Flanigan & Kiewra, 2018). This study may also motivate researchers to study the issue of classroom etiquette and design additional approaches for its enhancement.

Acknowledgements

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