Teachers Practices and First-year Students Perspectives on Peer Review in Academic Writing Classes

Rashad Ali Qaed Ahmed

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TEACHERS’ PRACTICES AND FIRST-YEAR STUDENTS’ PERSPECTIVES ON PEER REVIEW IN ACADEMIC WRITING CLASSES

by

Rashad Ali Qaed Ahmed

A Dissertation

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

Major: English

The University of Memphis

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DEDICATION

To my family for their patience, love, and prayers.

To my professors for their guidance.

To my friends for their support.
ACKNOWLEDGMENTS

This study would not see the light without the guidance and support of several people. I would like to thank my dissertation director, Dr. Emily Thrush, for her endless support and guidance throughout my pursuit of the doctoral degree. Also, I would like to thank all the other committee members, Dr. Teresa Dalle, Dr. Angela Thevenot, and Dr. Joseph Jones, for their encouragement and thoughtful feedback. I am greatly indebted to Dr. Dalle for not only being my committee member but also for serving as my academic advisor and mentor. She was always ready to help me in all academic matters.

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ABSTRACT


Supported by many theoretical frameworks that include the collaborative learning theory, process writing, and Vygotsky’s sociocultural theory, activity theory, and Zone of Proximal Development (ZPD), this study examined the use of peer review in first-year academic writing classes at a mid-south university in the United States. The study involved native and non-native speakers of English as well as writing instructors. The total number of participants consisted of 124 native speakers of English (NSOE) and 18 non-native speakers (NNSOE). The teacher sample consisted of 20 full time instructors and teaching assistants. The majority of the teachers were NSOF (90%) with only 10% of NNSOE teaching assistants.

The study employed different research methodologies (surveys, interviews, and observations) to collect data. This research aimed to provide an in-depth examination of several aspects of peer review, therefore, a mixed-method approach was employed by triangulating trends from quantitative and qualitative data. The quantitative data is used to investigate students’ and instructors’ perceptions of peer review and to find if there are any significant differences between them. The qualitative data are used to examine the practices of teachers during peer review sessions and are also used to supplement the quantitative analysis.

Key findings of the study show that face-to-face peer review during class is the most commonly used and most effective type. Regarding the writing aspects that teachers and students focus on when doing peer review, NSOE and NNSOE students appear to focus more on the language aspects such as accuracy and spelling, grammar range and punctuation. Teachers, on
the other hand, seem to focus more on aspects related to writing itself like evidence and examples, organization, coherence of ideas and content.

Students and teachers reported several potential problems of peer review and possible solutions. NSOE and NNSOE students showed similar results, but when compared to the instructors, the findings show several significant differences. Overall, all groups (75% NS students, 88% NNS students, and 60% teachers) reported that peer review is helpful for developing academic writing skills.
# TABLE OF CONTENTS

LIST OF TABLES ................................................................................................................. ix
LIST OF FIGURES .............................................................................................................. xi

Chapter 1 ............................................................................................................................... 1
  Introduction ....................................................................................................................... 1
    Statement of the Problem ............................................................................................... 3
    Purpose of the Study ...................................................................................................... 4
    Research Questions ...................................................................................................... 5
    Significance of the Study ............................................................................................. 5
    Organization of the Study ............................................................................................ 6
    Delimitations and Limitations of the Study ................................................................. 7

Chapter 2 ............................................................................................................................... 9
  Literature Review ............................................................................................................ 9
    Theories Supporting Peer Review .............................................................................. 9
    Benefits of Peer Review ............................................................................................ 11
    Drawbacks of Peer Review ....................................................................................... 15
    Solutions ...................................................................................................................... 18
    Students’ Perception ................................................................................................... 20
    Instructors’ vs. Students’ Perception of Peer Review ................................................. 23
    Modes and Types of Peer Review .............................................................................. 26
    L1 and L2 Peer Review: How L1 and L2 Writers Work Together in Peer Review .... 28
    Deficiencies in Past Literature / Gap in Literature ..................................................... 29

Chapter 3 ............................................................................................................................... 30
  Methodology ................................................................................................................... 30
    Research Design .......................................................................................................... 31
    Setting of the Study and Participants .......................................................................... 32
    Ethical Consideration .................................................................................................. 33
    Data Collection Procedure ......................................................................................... 33
    Instruments ................................................................................................................... 35
    Demographics about the participants in the observations and interviews ................. 39
    Reliability and Validity of the Instruments .................................................................. 40
    Quantitative Data Analysis ....................................................................................... 41
    Qualitative Data Analysis ........................................................................................... 42

Chapter 4 ............................................................................................................................... 43
  Results ............................................................................................................................... 43
    Peer Review Through the Eyes of the Teachers .......................................................... 43
    Objectives of Using Peer Review ................................................................................. 44
    Training Students on Peer Review .............................................................................. 46
    Strategies used to conduct peer review sessions ....................................................... 47
    Results of Group (NSOE students, NNSOE students, teachers) Comparisons ........... 50
    Frequency of Using Peer Review in Academic Writing Classes ................................ 51
Common types of peer review modes (Face-to-face; synchronous, asynchronous) ........................ 51
The Most Effective Format of Peer Review ........................................................................... 55
Aspects of Writing Skills Students (Native and Non-Native Speakers) and Teachers Focus on .......................................................... 61
During the Peer Review Process ......................................................................................... 61
Potential Problems of Peer Review and Possible Solutions ............................................... 69
Overall Usefulness of Peer Review in Improving Students’ Academic Writing ...................... 77
Instructors’ Feedback on the Quality of Peer Reviews .......................................................... 78
To Use or Not Use Peer Review in Academic Writing Classes ............................................ 78
Summary of Findings ............................................................................................................. 79

Chapter 5 .......................................................................................................................... 82

Discussion ........................................................................................................................... 82
Roles and Strategies of Peer Review ...................................................................................... 82
Types and Formats of Peer Review ....................................................................................... 84
Aspects of the Writing Skill ................................................................................................. 85
Potential Problems of Peer Review and Possible Solutions ............................................... 86
Perceptions of Students and Teachers Towards Peer Review ............................................ 88

Chapter 6 ........................................................................................................................... 90

Conclusion .......................................................................................................................... 90
Summary of Findings ........................................................................................................... 90
Pedagogical Implications ..................................................................................................... 92
Limitations ............................................................................................................................ 93
Suggestions for Future Research ......................................................................................... 94

References ......................................................................................................................... 95

Appendices .......................................................................................................................... 106
Appendix A: Students' Survey .............................................................................................. 106
Appendix B: Instructors' Survey .......................................................................................... 112
Appendix C: Classroom Observation Sheet .......................................................................... 116
Appendix D: Post Observation Survey ............................................................................... 117
Appendix E: Interview Questions ......................................................................................... 118
Appendix F: Consent to Participate in a Research Study ..................................................... 119
Appendix G: Students’ Recruitment Email ......................................................................... 122
Appendix H: Instructors’ Recruitment Email ....................................................................... 123
Appendix I: IRB approval .................................................................................................... 124
Appendix J: Permission to adapt interview questions ........................................................ 125
<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participants’ Demographic Information</td>
<td>33</td>
</tr>
<tr>
<td>2. A Description of the Participants who were Observed and Interviewed</td>
<td>40</td>
</tr>
<tr>
<td>3. Cronbach’s Alpha Results</td>
<td>41</td>
</tr>
<tr>
<td>4. Participants’ Definitions of Peer Review</td>
<td>43</td>
</tr>
<tr>
<td>5. Teachers’ Objectives in Using Peer Review</td>
<td>45</td>
</tr>
<tr>
<td>6. Strategies Used by Instructors to Train Students on Peer Review</td>
<td>46</td>
</tr>
<tr>
<td>7. Frequency of Peer Review Use in Academic Writing Classes</td>
<td>51</td>
</tr>
<tr>
<td>8. Descriptive Statistics</td>
<td>52</td>
</tr>
<tr>
<td>9. Kruskal Wallis Results for Between-group Comparisons</td>
<td>53</td>
</tr>
<tr>
<td>11. Descriptive Statistics</td>
<td>55</td>
</tr>
<tr>
<td>12. Kruskal-Wallis Results for Between-group Comparisons</td>
<td>56</td>
</tr>
<tr>
<td>13. Post hoc Comparisons for Significant Kruskal-Wallis Tests</td>
<td>57</td>
</tr>
<tr>
<td>14. Students’ responses to “Why face-to-face peer review during class time is effective?”</td>
<td>59</td>
</tr>
<tr>
<td>15. Instructors’ responses to “Why face-to-face peer review during class time is effective?”</td>
<td>59</td>
</tr>
<tr>
<td>16. Why Paper-based written peer review during class time is effective?</td>
<td>60</td>
</tr>
<tr>
<td>17. Descriptive Statistics</td>
<td>62</td>
</tr>
<tr>
<td>18. Kruskal Wallis Results for Between-group Comparisons</td>
<td>64</td>
</tr>
<tr>
<td>19. Post hoc Comparisons for Significant Kruskal-Wallis Tests</td>
<td>65</td>
</tr>
<tr>
<td>20. Descriptive Statistics</td>
<td>69</td>
</tr>
</tbody>
</table>
21. Kruskal-Wallis Results for Between-group Comparisons.................................................. 70
22. Post hoc Comparisons for Significant Kruskal-Wallis Tests.............................................. 72
23. Additional Problems Reported by Students........................................................................ 74
24. Additional Problems Reported by Instructors.................................................................... 75
25. Instructors’ Proposed Solutions for Peer Review Potential Problems............................ 76
26. Students’ Proposed Solutions for Peer Review Potential Problems.................................... 77
27. Students’ and Instructors’ Perception on the Usefulness of Peer Review......................... 78
28. Students’ and Instructors’ Responses to Whether or Not Teachers Provide Feedback on the Quality of Peer Review.............................................................................................................. 78
29. If You Could Choose to Do or Not to Do Peer Reviews in Your Writing Class, Which Would You Choose?......................................................................................................................... 79
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A sample of yes/no question from the web-based survey</td>
<td>36</td>
</tr>
<tr>
<td>2. Types of peer review ordered from the most commonly used to the less commonly used</td>
<td>54</td>
</tr>
<tr>
<td>3. Formats of peer review ordered from the most effective mode to the least effective</td>
<td>58</td>
</tr>
<tr>
<td>4. Aspects with significant pair-wise comparisons, showing students’ interest in language aspects vs. teachers’ prioritization of writing aspects</td>
<td>67</td>
</tr>
<tr>
<td>5. Aspects which lack significant group comparisons, but still show students’ interest in language aspects vs. teachers’ prioritization of writing aspects</td>
<td>68</td>
</tr>
<tr>
<td>6. Aspects with significant pair-wise comparisons, showing students’ and instructors’ perceptions of the potential problems of peer review</td>
<td>74</td>
</tr>
</tbody>
</table>
Chapter 1

Introduction

The past few decades have witnessed an increase in peer review as a pedagogical approach in English academic writing classes where English is taught either as a first, second, or foreign language (Huang, 2015; Min, 2006; Tsui & Ng, 2000). It has become one of the most common feedback activities in composition and academic writing classes (Anson & Anson, 2017; Brammer & Rees 2007; Hu, 2005; Yu & Hu, 2017). The activity’s importance comes from the importance of writing across many disciplines. Having strong writing skills has become very important in today’s world (Cole, & Feng, 2015). Individual success is often dependent on a person’s efficiency at writing: a student seeking admission to a graduate school might not be admitted if s/he is not able to compose a good statement of purpose, a job seeker might not get hired if s/he cannot write a good cover letter and a good resume. This importance of writing skills has inspired researchers to investigate effective methods and strategies to evaluate students’ writing and how it can help them improve their writing skills. One of these methods, which has been a focus of numerous research studies, is peer review.

Peer review is also referred to as peer feedback, peer editing, peer evaluation, and peer response. In this research project, the term “peer review” is used to describe this process because it is commonly used and understood and it serves the scope of this study. It is defined by Liu & Hansen (2002) as “the use of learners as sources of information and interactants for each other in such a way that learners assume roles and responsibilities normally taken on by a formally trained teacher, tutor, or editor in commenting on and critiquing each other’s drafts in both written and oral formats in the process of writing” (p. 1). Peer review is a collaborative writing activity, a type of feedback on students’ writing, which may involve the learners not only in
writing, but also in speaking, reading, and listening (Hu, 2005). It helps students develop all language skills as well as collaboration and communication skills.

Peer review is one of the most important mechanisms of process writing. It has been used as a teaching technique for over 30 years (Neff, 2015). Peer review emphasizes the concept of drafting a writing project through several stages, which allows students to conceive of writing as a process and make decisions regarding composition more deliberately. Instead of focusing on the final product, students create meaning with their writing (Hu, 2005). The opportunity to discuss and justify their work while reading and commenting on other students’ writing help develop their critical thinking and reading skills.

In addition, peer review emphasizes learner autonomy. With rapid technological advancements alongside an increasing number of English Language Learners globally, it has become increasingly difficult for teachers to serve as the only source of evaluation for students’ work. This gives more and more attention to autonomous learning. Rather than receiving feedback from instructors alone, peer review allows students to give and receive feedback with minimal help from their teachers. This brings out the argument of whether students can provide useful feedback to their peers. Lu and Dol (2007) reported many studies (e.g., Chaudron, 1984; Mangelsdorf, 1992; Paulus, 1999; Ramsden, 1992; Richer, 1992) that emphasized the effectiveness of peer review in L1 and L2 contexts and that it can be as good as or better than instructors’ feedback in helping students improve their writing skills. This study attempts to address all the important issues of peer review from the perspective of instructors and L1 and L2 learners.
Statement of the Problem

Significant research has been conducted on peer review. Many researchers find peer review very helpful for students to improve their academic writing skills (e.g., Berg, 1999; Caulk, 1994; Ferris, 2003; Hu, 2005; Harmer, 2004; Hu, 2005; Kamimura, 2006; Mendonca & Johnson, 1994; Moore & Teather, 2013; Patchan & Schunn, 2015; Rouhi & Azizian, 2013), while others (e.g., Hyland, 2000; Kaufman & Schunn, 2011; Roskams, 1999; Sengupta, 1998; Yu and Hu, 2017) have identified key detriments to the activity. Numerous studies on peer review pay an inordinate amount of attention to students’ perception and experiences (e.g., Brammer & Rees, 2007; Sukumaran & Dass, 2014; Yastıbaş & Yastıbaş, 2015). Little research has been conducted on instructors’ perspectives on their use of peer review (Vorobel, & Vásquez, 2014). Existing studies (e.g., White, Morgan, & Fuisting, 2014; Vorobel & Vásquez, 2014) mainly focus on the perspectives of teachers in English as a second/foreign language (ESL/EFL) contexts. No studies include the perspectives of first-year teachers, Native Speaker Students (NSSs) or (L1), and Non-native Speaker Students (NNSs) or (L2) regarding their use of peer review in academic writing classes.

Many Universities around the world require students across majors to complete academic writing classes in their first year of college. Since peer review has become a common practice in introductory composition classes (Brammer & Rees, 2007; Caulk, 1994; Hu, 2005), it is important to investigate the perspectives of both first-year academic writing instructors and students (L1 and L2) to determine their impressions regarding the effectiveness of peer review in addition to techniques and modifications instructors can use to make the activity more appealing and effective for students. This study aims to fill this gap in the empirical research by
investigating the use of peer review from the perspectives of both teachers and students using different research methodologies: surveys, interviews, and observations.

**Purpose of the Study**

The main purpose of the current study was to investigate aspects of peer review that have not been thoroughly addressed in previous studies. Specifically, this study aimed to investigate how L1 and L2 students and their writing instructors perceive the effectiveness of peer review in developing students’ academic writing skills. The study examined the main purpose behind incorporating peer review in academic writing classes, the different types of peer review, and how often they are applied. This would provide an insight into which types are more common and how often they should be used. Research studies (e.g., Berg, 1999; Min, 2006) have shown that training students on how to do peer review has proven to be productive. This study attempts to ascertain whether or not teachers provide any training to their students prior to peer review, and if so, what type of training has proven helpful. Additionally, the study investigates the aspects of writing that teachers and students focus on. One argument against peer review focuses on the notion that students lack the experience of giving feedback to their peers (Rollinson, 2005). This study examines whether or not teachers provide feedback on the quality of peer review, the general perception of teachers and students as to whether they think peer review is helpful or not, and whether they would recommend integrating the activity into composition classes is another goal for this study. Instructors and students were given a chance to express their opinions on why they think peer review is or is not important. Both instructors and students were observed to determine involvement with the peer review process.
Research Questions

1) What is the role of peer review in academic writing classes? What strategies do instructors use to conduct peer review?
   a) Which strategies were deemed effective by instructors?
   b) Which strategies were deemed effective by students?
2) Which types of peer review are commonly used: face-to-face; synchronous, asynchronous?
   a) Which formats are perceived as the most effective by instructors?
   b) Which formats are perceived as the most effective by students?
3) Which writing skills do students (native and non-native speakers) and teachers focus on during the peer review process?
4) What are the potential problems of peer review?
   a) What do teachers perceive to be possible solutions?
   b) What do students perceive to be possible solutions?
5) What are the attitudes of native and non-native speaker students towards peer review? What are the perceptions of instructors towards peer review? How are their views similar or different?

Significance of the Study

Peer review is one of the most commonly used and poorly implemented activities in English writing classes, though it possesses the potential for great pedagogical implications when applied correctly. This study attempts to provide a comprehensive examination of peer review employing a wide-range of participants and research methodologies. It is conducted in an American public university in the mid-south comprised of student population educated largely in public schools—many of whom are the first in their families to attend college. The findings of the study yield implications that will benefit academic writing instructors, students, researchers, and
administrators. The study explores techniques and strategies used by instructors when conducting peer review sessions. It also examines the problematic issues that arise throughout the process of peer review. This investigation highlights the strategies that have been tested and deemed successful. Moreover, the findings offer suggestions on how to avoid the potential problems of peer review and recommend techniques that will enable students to mature not only into successful peer reviewers, but to grow as collaborators and autonomous learners. The results are helpful for teachers to reflect on their integration of peer review into writing classrooms and consider which strategies can help them make it a more valuable exercise for students.

Organization of the Study

This study is organized into five chapters. Chapter 1 introduces the topic of the study and provides background information on the research problem. It discusses the main purpose, research questions, limitations and delimitations, and significance of the study.

Chapter 2 discusses two main topics. First, it explains the theories that support peer review as a social activity that helps students learn more effectively. Second, it provides a review of literature related to the current study exploring the benefits and drawbacks of peer review in addition to the perceptions of instructors and L1 and L2 students. Furthermore, the chapter discusses the modes and types of peer review and the deficiencies in past literature and how the current study is addressing them.

Chapter 3 describes the methodology of the study. It begins by presenting the details of the design of the study. Next, it discusses the setting where the study was conducted and ethical considerations taken into account. It provides all specifications related to the data collection procedure, instruments, and participants in this study: subjects’ demographic information and how they were recruited. It explains the strategies used to increase the reliability and validity of
the study. Finally, the chapter also discusses how the data was analyzed using the qualitative and quantitative approaches.

Chapter 4 analyzes qualitatively and quantitatively the results of the study. This chapter is organized according to the order of the research questions. It begins by discussing peer review through the eyes of teachers according to their definitions and objectives. It presents strategies that used by teachers and the ones that were considered to be effective. The chapter then discusses the comparative analyses of the perspectives and practices of teachers and L1 and L2 students. First, it presents the results of the frequency of peer review exercises among the three groups. Second, it discusses the different types and formats of peer review to identify which strategies were perceived as effective. Third, it presents the analyses in regard to the aspects of the writing skill L1 and L2 students and teachers focus on during the peer review process. Fourth, it thoroughly discusses the potential problems and the possible solutions. Fifth, it highlighted the overall usefulness of peer review and whether or not teachers provide feedback on the quality of peer review. The chapter concludes with a summary of the main findings.

Chapter 5 discusses the findings of the current study in relation to past literature. It focuses on how the findings fill the gap in the empirical literature identified in the research problem. It contextualizes the findings in relation to previous studies.

Chapter 6 describes in detail the conclusions of the study and the pedagogical implications for instructors and students (L1 and L2) in academic writing classes. Chapter 6 concludes with recommendations for future research.

**Delimitations and Limitations of the Study**

Delimitations and limitations are parameters used by researchers to create boundaries and highlight any reservations or exceptions (as cited in Creswell, 2013)
Delimitations. Delimitations are the boundaries that the researcher sets in order to narrow the scope of a study. This research study has a number of delimitations. First, the study is conducted on instructors and first-year students in a writing program in a mid-south U.S. University. This group of participants was selected because of the researcher’s personal experience in the program and the big gap in literature. If the study is conducted on a different population, the results may not be the same.

Another delimitation is the academic setting. This study is conducted in a mid-south U.S. University with the majority of students self-identifies as first-generation attendants. If the study is conducted in different academic settings, the results may differ.

Furthermore, the target audience were a mixture of both L1 and L2 where the researcher intended to highlight any differences between first language (L1) and second language (L2). If the study is conducted solely on either L1 or L2 learners, the results may vary.

Limitations. Limitations are weaknesses in a study and are often beyond the researcher’s control. Creswell (2015) defines limitations as the “potential weaknesses or problems with the study identified by the researcher.” Throughout the design and implementation of the current study, the researcher observed some limitations that includes the following:

1. The small number of participants from amongst the instructors. The researcher was able to collect data from only 20 instructors and 142 students.
2. There was not equal representation of males and females nor first and second language learners.
3. The study was conducted on first-year students in the United States. Conducting the study on different groups within different contexts may yield different results.
Chapter 2

Literature Review

Over the years, researchers have investigated methods of providing feedback to student writing. Some common methods in L1 and L2 instruction include but are not limited to instructors’ feedback, peer feedback, self-correction, and teacher-student conferences (Saito, 1994). Of these methods, peer feedback or peer review has currently become a common activity during the writing process (Anson & Anson, 2017; Hu, 2005; Yu and Hu, 2017). Brammer and Rees (2007) states that, “the process of having students critique each other’s papers has become commonplace in the composition classroom and in English composition textbooks” (p. 71). Storch (2017) describes peer review as an activity that is “generally implemented in a writing class as a reciprocal activity, whereby two students exchange their drafts and provide each other with feedback, including corrective feedback (CF), on these drafts. The feedback can be delivered in the form of comments written on the drafts or on a checklist” (p. 66). As discussed below, most studies reported that peer review is beneficial for students and helps them improve their writing skills. This review of literature discusses the theories that support the use of peer review, its benefits and drawbacks, perceptions of instructors and students, modes and types, how L1 and L2 interact in peer review, the solutions to potential problems, and deficiencies in past literature.

Theories Supporting Peer Review

Peer review is supported by many theoretical frameworks that include Vygotsky’s Zone of Proximal Development (ZPD), collaborative learning theory, process writing (Hansen & Liu, 2005), and Vygotsky’s sociocultural theory and activity theory (Lei, 2008; Lin & Yang, 2011).
The shared concept of all these theories is that learning is a social activity. So, for learning to take place, there has to be a form of meaningful interaction among students.

The sociocultural theory of Vygotsky (1987) stresses the importance of interaction and collaboration among learners. This theory claims that social interaction is a very important factor for cognitive development. ZPD is an essential aspect of this theory. It highlights the need of social interaction for learning development. Vygotsky (1987) describes this aspect as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (p. 86). During the peer review process, students have the opportunity to discuss, explain, argue, and clarify their claims. Therefore, peer review can be considered a social activity that makes the concept of ZPD easily achievable.

In addition, peer review is supported by Collaborative Learning and Interactionist theories. Collaborative learning is when two people or more work together to learn something (Dillenbourg, 1999). Studies that examined the effectiveness of collaborative writing in L1 settings (e.g., Higgins, Flower, & Petraglia, 1992; Keys, 1994; Storch, 2005) found that when peers engage in discussing and defending their ideas, they tend to develop not only their writing but also their reflective thinking skills. Similarly, studies conducted on L2 learners (e.g., Donato, 1988; DiCamilla & Anton, 1997; Storch, 2002; Storch, 2005) concluded that learners who work collaboratively with others develop grammatical accuracy, vocabulary, and discourse. These studies show the importance and the potential benefits of using peer review in L1 and L2 classrooms, especially since peer review includes social interaction and collaboration (Yu & Lee, 2016).
Studies (e.g., Gokhale, 1995) compared the effectiveness of collaborative learning vs. individual learning and found that students perform better when they work collaboratively with their peers. Moreover, collaborative learning among peers helped students develop their writing and linguistic skills (Bruffee, 1984; Liu & Hansen, 2002).

The Interactionist Theory supports the concept of peer review in developing students’ writing skills (Yu & Lee, 2016). Peer interaction during the peer review process gives students the confidence to revise other people’s work, allows them to discuss problematic issues, helps them identify their audience, and make them aware of the social aspects of writing (Hyland & Hyland, 2006).

L1 and L2 researchers have been focusing on teaching writing as a process rather than a product (Hayes & Flower, 1980; Flower and Hayes, 1981; Hayes, 2012; Murray, 1972). According to Hu (2005), peer review constitutes a major activity in the process-oriented writing instruction for two main reasons. The first is that the concept of peer review matches that of the writing process where writing is considered to be “recursive, socially constructed process of invention, meaning-making and knowledge-transformation” (Hu, 2005, p. 322). The second has to do with the environment where students are recognized as writers, encouraged to take risks, and engaged in creating meaning (Zamel, 1987, p. 697). Most of the studies presented below are based on these theories.

**Benefits of Peer Review**

Many researchers (e.g., Berg, 1999; Ferris, 2003; Harmer, 2004; Hu, 2005; Mendonca & Johnson, 1994; Moore & Teather, 2013; Patchan & Schunn, 2015) observed that peer review stands to be one of the important activities in writing instructions. Specifically, peer review is important because it makes students more aware of their intended audience (Leki, 1993), and
helps them improve their critical and analytical writing and reading skills (Nystrand & Brandt, 1989). Hillocks (1984) viewed peer review as a positive activity, where students are given a chance to read other writings, provide and receive feedback, and develop their drafts. Peer review can be helpful for students to organize essays more intentionally and to focus the ambiguity of ideas (Berg, 1999).

Peer review is important for the reviewers and the reviewees. A study by Lundstrom and Baker (2009) explored the benefits of peer review for the reviewer. The study targeted 91 students enrolled in an intensive English program. The sample was taken from 9 writing classes with two different proficiency levels. Students were divided into two groups; reviewers who were asked to provide feedback only and reviewees who received the feedback and were not asked to review the experience. Writing samples from both groups were then evaluated to see who benefited more from the process; the reviewers or the reviewees. The findings show that the reviewers profited more from peer review than the reviewees. Reading other students’ work helped the reviewers make more significant changes than the reviewees who focused exclusively on their peers’ feedback. The authors claim that reviewers from a low proficiency level gained the most from the peer review process and they focused more on the global aspects. This study indicates that peer review can be useful not only for the receivers, but also for the givers.

A similar study by Rouhi and Azizian (2013) investigated the gains of peer review for the givers and receivers. The study targeted 45 EFL learners who were enrolled in three different classes. They were divided into three groups: givers, receivers, and a comparison group. Their method was very similar to Lundstrom and Baker’s (2009) in which the givers were allowed to give feedback only, and the receivers received the feedback and were not permitted to provide any comments. The addition in this study is the comparison group who neither gave nor received
feedback. The reviewers were asked to work on only two grammatical aspects (English articles, and simple past tense). All groups were given a pre-test and a post-test. The results show that the reviewers performed significantly better than the receivers, and the receivers performed better than the comparison group.

Peer review is beneficial for low-proficient as well as high-proficient learners. The level and writing performance of students does not affect the benefits of peer review, so all students, regardless of proficiency level, find peer review to be useful (Huisman, Saab, Driel, & Broek, 2017). Another study on the same issue by Kamimura (2006) examined the effectiveness of peer review in EFL writing classes. The study involved two EFL Japanese classes with each consisting of 12 college first-year students. The researcher used a holistic score to rate the change in overall quality and a word count to evaluate change in students’ fluency. The quantitative analysis included a comparison of pre- and post-tests, a comparison of the original draft and the rewrite, and the number of comments. The qualitative analysis focused on comparing the original drafts against the rewrites by high-proficient and low-proficient students. The findings indicate that both high-proficient and low-proficient students benefited from peer review, which was determined through the overall quality of their essays. The rewrites for both groups were significantly longer and better than the original drafts. The researcher attributed this improvement to peer comments. Even though the results did not show any significant impact on students’ fluency, it still showed longer compositions in their post-tests. Overall, Kamimura finds peer review helpful for EFL learners, especially for lower-proficiency learners. This study agrees with Lundstrom and Baker (2009) described earlier.

Additionally, according to Rollinson (2005), “the use of peer feedback in English as a Second Language (ESL) writing classrooms has been generally supported in the literature as a
potentially valuable aid for its social, cognitive, affective, and methodological benefits” (p.23). When students receive comments from their peers, they are likely to respond actively because they view their peers as collaborators and not as evaluators. Peer review has the potential to help students provide feedback for each other, involve in a meaningful interaction, and engage with other perspectives (Lundstorm & Baker, 2009, p. 30). Students should be encouraged to respond to their peers’ work (Harmer, 2004).

Based on a research project on the benefits of peer review, Hu (2005) found the following:

- Peer review encourages positive student attitudes towards writing.
- It helps students create meaning in their writing and identify their own weaknesses and strengths.
- Peer review can help students clarify their intended meaning and learn to tailor their writing to an audience.
- During the peer review process, students have the chance to discuss, explain, argue, and make their claims clear.
- A significant benefit of peer review on L1 and L2 writing skills would be to improve students’ abilities in revision strategies.
- Students have the capacity to provide useful feedback that is more detailed than instructors’ feedback, because students are generally on the same level of proficiency and consequently understand each other better (as cited in Hu, 2005).

Hu and Lam (2010) investigated the effectiveness of peer review in L2 classrooms. They examined how different factors (e.g., perception, experience, preference, and culture) impact the outcomes of peer review. They used a mixed-method approach to collect data from 20 Chinese
postgraduate students at a University in Singapore. They used interviews and questionnaires to examine students’ perception and they used changes in drafts to measure the writing development. The quantitative results show that peer review helped students make significant improvements in their revised drafts. The qualitative data determined that peer review is an appropriate activity for Chinese students.

Moreover, a recent corpus study by Anson & Anson (2017) investigated the characteristics of instructors’ and peers’ feedback. The study inferred that peer review has the potential to be used as an effective tool in teaching writing. The researchers added that students’ feedback may be affected by many factors including their values and beliefs.

All of the studies above show that peer review has been used as an effective tool to respond to students’ writing. However, the few studies that highlighted the potential problems of peer review are discussed in the following section.

**Drawbacks of Peer Review**

Even though peer review is a major component of process-based writing, sometimes the focus remains the product rather than the process itself (Storch, 2005). A study by Rollinson (2005) listed the following potential problems that may be associated with peer review:

- Peer review is a lengthy process. The process begins with teachers training students on how to do peer review. Then, students are expected to read drafts more than once, write comments, and discuss the comments with other readers, and/or with the writer.

- Students may lack confidence in themselves giving feedback to others or underestimate the value of their classmates’ feedback.

- Students have different cultural backgrounds, and so some of them might feel uncomfortable participating in peer review sessions. Some may try to avoid writing any critical comments.
The teachers might find it difficult to interfere and provide comments during the process of peer review.

Another study by Kaufman and Schunn (2011) examined the factors that affect students’ negative perception towards peer review. They used an online platform called “SWoRD” and distributed a survey to 250 students from 6 universities. First, they examined the perceptions of the participants who received feedback from their instructors and peers. Second, they thoroughly investigated the perceptions of a group of 84 students, who received feedback from their peers only. The findings of the first group yielded positive results where students appreciated getting feedback from their teachers and peers. For the second group, participants considered peer review to be unfair and they claim that they did not have confidence in their peers giving them feedback because they did not have the requisite knowledge to do so. However, their perceptions changed to be more positive when the researchers made them practice peer review as opposed to merely anticipating the activity.

There are several factors that can affect the quality of peer review. First, in classes comprised of students of different cultural and linguistic background, these differences may play a significant role in the outcomes of the peer review process. Roskams (1999) examined how the attitudes of peer reviewers can be affected by their cultural beliefs. He did the study on 200 EFL students at a Hong Kong university. The students were tasked to work in pairs. The data was collected from two pre- and post- questionnaires designed to elicit information about students’ attitudes about working together. The study show that student were more anxious before the peer review, but their perception changed towards the end of the semester. The majority of the participants believe that peer review helped them share the workload as well as establishing new friends. Overall, they found peer review to be more productive than working individually. An
interesting observation from this study and the study of Kaufman and Schunn (2011) show the importance of giving students a chance to practice doing peer review before they are able to provide quality feedback.

A similar research study by Yu and Hu (2017) investigated the practices of EFL students and factors that impacted their feedback. The researchers conducted a case study on two Chinese EFL college students. The study found that students use different approaches when giving feedback. Their practices are influenced by their social and educational backgrounds and their beliefs. Moreover, a study by Hyland (2000) examined the effect of peer feedback on ESL learners. The study was comprised of interviews, questionnaires and observations. Data were collected over 14 weeks at a university in New Zealand. Students’ responses show that their cultural differences made them uncomfortable to participate in the peer review process and thus prevented them from writing any critical comments. Students additionally reported that they prefer teachers’ feedback over the feedback of their peers.

Another drawback of peer review is that students view their teachers as the only readers of their work, and therefore do not value their peers’ comments. Sengupta (1998) examined the perceptions of EFL students on the roles of teachers and learners as readers of their papers. The researcher used self and peer evaluation sheets to analyze the comments provided by reviewers. The researcher also examined the revisions of 12 students to determine whether or not students learned from the peer review in revising their papers. Only 6 of the participants were interviewed. The study found that the participants did not find peer review valuable for them as readers. Moreover, participants preferred to receive feedback from the instructor only because they believe s/he is the only reader for their work. The study concludes that if students’ perception of teachers’ roles remains unchanged, the peer review process will not be very useful.
Amores (1997) conducted a similar study on a different language. The study used questionnaires and interviews to collect data from American college students studying Spanish as a foreign language. The goal of the study was to examine students’ overall perception of peer review. The majority reported that the exercise had no benefit and they only complied because the activity was required. The study concludes that students were not very comfortable with peer review and they prefer instructors’ feedback over peer review. The findings of Amores’s study agree with Nelson and Carson (1998) who found that the participants seemed to favor instructors’ feedback over peer feedback.

Even though the majority of the research studies have found peer review to be a useful activity, the problems discussed in this section must be addressed in order to make the process more beneficial for improving student writing. As discussed in the following section, a few researchers attempted to identify possible solutions that could result in more productive outcomes.

Solutions

A limited number of studies examined possible solutions to make peer review more effective. Berg (1999) investigated how peer review can help ESL learners revise written assignments and develop their writing skills. The researcher focused on the impact of training and whether or not it affects students’ revisions and the quality of their writing. The researcher used two research methodologies: a questionnaire and interviews. The study consisted of two groups of participants (23 each): one was trained on how to conduct peer review while the other was given no instruction. All the participants had not used peer review before. The researcher examined two drafts for each student: the first draft is the one before the peer review process and the second draft is after peer review. Both drafts were completed as homework assignments.
Students were trained to focus on specific aspects of the writing, especially the semantic aspects. They were instructed to be specific, ask questions, and use clear statements. The study found that the trained students showed greater writing improvements and more “meaning changes” in the reviewed drafts. This shows that training students on peer review is vital for better learning outcomes.

Another study by Min (2005) examined the impact of training on the quality of peer review. The researcher trained students in two ways. First, she used the modeling strategy to show students how to conduct effective peer review. She focused on four characteristics deemed to be important for facilitating students’ revisions: providing specific comments, identifying problems, explaining the problems, and clarifying the intentions of the authors. The second type of training assumed the form of individual conferences. The researcher/teacher held two conferences with each reviewer to discuss individual issues that students may encounter when they review their classmates' papers. The study was conducted on 18 EFL sophomore students at a Taiwanese university. After the in-class training and the individual conferences, students were asked to do another peer review. The researcher compared their comments before and after training. She found that the number of comments and words of their feedback after training was significantly higher than the number before training. In terms of quality, the comments were more specific and relevant after training. The researcher concludes that proper training can help students become better reviewers.

A follow up study by Min (2006) attempted to find out if the same group of students would integrate the feedback they received after training into their revised drafts. In addition, the researcher investigated the quality of the revised drafts and the type of feedback the students find useful. The researcher along with two independent raters assessed the pre- and post- reviewed drafts.
essays based on certain criteria: development of ideas, organization, and sufficiency. The results show that the total number of comments integrated into the revised drafts after training were significantly higher than the comments integrated before training. The raters also estimated the quality or revisions after training to be 72% compared to only 9% before training. The type of revisions concentrated on substitution (20%), permutation (19%), and reordering (18%).

**Students’ Perception**

Most of the studies found on students’ perception on peer review reported that students find peer review to be helpful in developing their writing skills. A study conducted by Yoshikawa O., & Kyoko (2016) investigated students’ perception in reviewing their classmates’ papers in an EFL writing class. The study found that students perceived peer review to be a beneficial activity for developing their English proficiency and usage.

Several factors can affect students’ perception of peer review. A study by Wang (2014) examined how the perceptions of EFL students on peer review change with time and what factors affect their perceptions. The study also investigated students’ opinion on the use of rubrics during peer review sessions. The researcher used research instruments that included questionnaires, students’ essays, and interviews. The study was conducted on 53 Chinese students and it concluded that students’ perception of the usefulness of peer review change over time. Students have less expectations of the outcomes of peer review due to their lack of knowledge of the assigned topics, their proficiency in English, time constraints, and their concerns of personal relationships. Rubrics were helpful in guiding students throughout the process of peer review.

Another study by Hislop & Stracke (2017) investigated the perceptions of first-year students on peer review and its usefulness. The students were ESL students enrolled in an
English for academic purposes class in New Zealand. Each participant was asked to write a diary entry after using peer review where they answer questions related to their practices and perceptions of peer review. These entries were collected and analyzed. studying English for academic purposes. The researcher found that students held a positive opinion of peer review. She recommends that training students to do peer review will enrich their experiences and lead to more positive attitudes towards the activity.

A study by Yastibaş and Yastibaş (2015) examined students’ perception of peer review and if has any impact on students’ writing anxiety. The researchers used a mixed-method approach to collect data from 16 EFL students for 8 weeks. The study found that students harbored positive attitudes towards peer review, which helped reduce anxiety and boost their confidence. Additionally, it helped students improve their writing and collaboration skills.

A case study by Orita (2016) investigated students’ perception on using peer review in an EFL writing classroom. Results show that the students had positive attitudes towards peer review. Specifically, they thought about it as a good experience not only in giving and receiving feedback, but also in reading different types of essays and learning from them. On the other hand, the study found that students lack the patience to give good feedback to their peers. Overall, the study finds peer review helpful for students, with the condition that they should be made aware of the value of peer review.

By giving feedback to their peers, students find it useful to improve their own writing skills. A study by Rouhi and Azizian (2013) investigated how peer review can benefit the giver. The study was conducted on 45 EFL learners who were divided into givers, receivers, and a control group. The results show that the givers made greater progress than the receivers, and the
latter did better than the control group. So, by having students do peer review, they gain benefits as readers of other people’s work, and also get comments on their own.

Oral feedback can be as helpful and written feedback. Hedgcock and Lefkowitz (1992) investigated how oral peer feedback can help students develop their composition skills. The study was conducted on 30 French learners studying at an American university. The students’ first language was English. They were divided into two groups; a control group received feedback only from the instructor while the experimental group received oral feedback from their peers. The students in the experimental group were asked to read their papers aloud to their peers who would respond orally based on written guidelines. The findings show that the experimental group performed better than the control group to conclude that peer review helped students believe in the value of their work and their ability to provide feedback to one another.

A similar study by Connor and Asenavage (1994) yielded different results. The researchers used a reading-out-loud strategy. They asked 8 freshmen students to read their papers aloud while their peers listened and wrote comments. They aimed to examine the effect of peer review on revisions by comparing instructors’ comments with other sources in addition to peer review. The tape-recorded sessions along with other comments, especially from instructors, were analyzed. The researchers determined that the students made a significant amount of changes, but only a few were made as a result of peer review. The researchers recommend that teachers should pay attention to modeling and group formation and should not have high expectations of peer review.

Students find peer review helpful to identify their weaknesses. Nelson and Carson (1998) investigated the perceptions of Spanish and Chinese ESL students towards peer review. They videotaped 3 peer groups for 6 weeks. Then, they met with the students, played the videotapes,
and asked them some questions. The study found that the students prefer critical feedback that makes them able to identify their weaknesses. The participants seemed to favor instructors’ feedback over their peers’. Moreover, peer review gives students a sense of independence in learning. Nicol, Thomson, and Breslin (2014) investigated students’ perception towards peer review and the learning benefits on their writing. The study also examined different mental processes that students use while performing peer review. The study found that peer review is beneficial for students in many respects. It encourages them to be autonomous learners and to exercise the ability to evaluate other people’s work and to reflect on their own writing.

Instructors’ vs. Students’ Perception of Peer Review

With large writing classes, it becomes very difficult for teachers to give timely and effective feedback to all students. This makes it necessary for teachers to find other alternatives for evaluating students’ work. Peer review is one of the most common activities that teachers use to serve this purpose, especially since researchers (e.g., Trengove, 2017) found peer feedback to be as valuable as instructors’ feedback.

Students and teachers sometimes focus on different aspects of writing when giving feedback. Caulk (1994) conducted a comparison study between students’ and instructors’ feedback. The study aimed to find out whether students’ feedback was similar in quality to instructors’ feedback, and if there were any differences between the two types of comments to speculate why these differences might exist. The researcher conducted the study on his ESL students. He analyzed 30 papers alongside his own comments on each paper to find that 89% of the participants made useful comments, 60% came up with good suggestions, and only 6% of participants gave advice that he did not agree with. The researcher claimed that even though students’ feedback was useful, it did not cover as many aspects as he had covered in his
comments. The teacher’s comments were typically general and pertained to the whole paper, while students’ feedback was specific and did not include many suggestions on the whole paper.

Ruegg (2015) compared the effect of students’ and teachers’ feedback on the development of students’ writing skills. The study was conducted on two groups for one year. One group received feedback from the instructor only whereas the other group received feedback from their peers. The study found that there was no significant difference between the two types of feedback except in grammar, where the group that received feedback from the instructor performed better than the other group.

Paulus (1999) examined the effectiveness of instructors’ and peers’ feedback on students’ writing. The researcher compared the first and final drafts from 11 ESL students in terms of sources of feedback and types of revisions. The data was analyzed based on Faigley and Witte’s (1981) taxonomy of revisions. The study found that peer and teacher feedback resulted in meaningful changes to students’ final drafts. This shows that peer feedback is as useful as teacher feedback and that teachers should consider integrating peer review sessions as elements of writing assessment.

A similar study by Yang, Badger, and Yu (2006) compared the effects of peer versus teacher feedback on students’ writing. The study was conducted on ESL learners and utilized several research methodologies such as questionnaires, video recordings, and interviews. The study concluded that both types of feedback were used by students as they revised their papers. Even though the students tend to pay more attention to instructors’ feedback, they acknowledged the importance of peer review and appreciated its value for negotiating meaning and clarifying any misinterpretation.

Zacharias (2007) investigated the perspectives of students and teachers towards peer
review. The researcher collected data using questionnaires and interviews from 100 students. The study found that students prefer teachers’ feedback when it is specific. Also, students’ preference of teachers’ feedback is mainly affected by the fact that teachers control their grades and any revisions they make according to their instructors’ feedback will raise their grades.

Tsui and Ng (2000) compared the ways peer and teachers’ comments facilitate revisions. The study was conducted on 27 secondary school students in Hong Kong. The researchers used questionnaires and interviews to collect data. They found that even though students tend to prefer teachers’ comments, they still value peer review. Particularly, they find it very beneficial to read their classmates’ papers and learn from other styles of writing. Through peer review, students develop their rhetorical strategy of paying attention to their audience. Other benefits of peer review, according to this study, include: encouraging collaborative learning, helping students determine their weaknesses and strengths, and helping them have ownership of their text. The study concluded that peer comments are more useful when followed by oral discussion, which allows authors to clarify their intended meanings. Then, students collaborate on how to convey their messages effectively.

Cho and MacArthur (2010) examined the effect of expert versus peer feedback on writing development. The study employed a field-based experiment on 28 undergraduate students. The participants were divided into three groups: the first group received feedback from an expert in writing, the second received feedback from a single peer, and the third received feedback from multiple peers. The three groups were then compared for length and quality of their first drafts. The study concluded that the third group which received feedback from multiple peers showed more improvements in quality than the other two groups. They also made more revisions than the other groups.
Teachers’ lack of confidence in students’ abilities to provide valuable feedback to their peers may restrict the use of peer review and thus deprive students of its benefits. A study by Falchikov & Goldfinch (2000) conducted a meta-analysis to examine the validity and reliability of students marking. They compared peer and teacher marks using 48 quantitative studies. They found that peer evaluation was very similar to teacher evaluation. The findings of this study recommend teachers to have more confidence in their students.

**Modes and Types of Peer Review**

Peer review can be completed in different formats such as face-to-face or computer-mediated interaction (Storch, 2017). Researchers have investigated different modes of peer review to determine which practices are more effective than others. Some studies found that using online tools such as wikis have proven to be more effective than face-to-face peer review. A recent study by Huang (2016) examined the effectiveness of online peer review among EFL learners. The study concluded that online peer review is effective for many reasons. One reason is that it increases students’ interests and performance. The study stressed the important role of instructors throughout the online peer review. Teachers should educate their students on how to use these tools and provide very clear instructions that students at different levels of proficiency would be able to understand.

In regard to using wikis as platforms for peer review, He (2011) found that wikis can be beneficial for both teachers and students. However, for effective use of wikis, attention must be paid to the groups’ formation and coordination. Another study by Lin, & Yang (2011) explored the effectiveness of integrating wikis into an English writing instruction course. The study found that students had a positive view on using wikis for peer review. Wikis are helpful for students
not only in the peer review process, but also in developing critical thinking skills (Demirbilek, 2015).

Another recent study by Vorobel and Kim (2017) examined students practices in face-to-face vs. online peer review. The study used different methods that included interviews, e-journals, artifacts, observations. The participants were 4 high school students in the United states. The participants reported their preference of online peer review over face-to-face.

Although the previous studies found that online peer review could be more helpful than face-to-face peer review, other studies discussed the limitations of using online tools for peer review. One limitation was that students might not meet the expectations of their instructors (Kessler & Bikowski, 2010), but this is an issue that is likely to happen even without technology. Another study that privileges face-to-face peer review over online was conducted by Ho (2015). The researcher studied how online peer review influenced students’ revisions and perceptions. The study found that face-to-face discussions were more effective than online because students got immediate feedback in-person and were able to get some clues through facial expressions and body language.

While online and face-to-face peer review each have their pros and cons, both modes can be effective. Liu and Sadler (2003) examined how the two modes of peer review (online and face to face) affect the types and nature of students’ comments. The study was conducted on 48 students at a university in the U.S. The first class consisted of L2 learners only and was tasked to follow the traditional method. The second class consisted of 7 L1 and 17 L2 learners and were asked to use technology in their peer review. Both groups were taught by the same teacher and were given identical assignments. The results reveal that face-to-face peer review was better for
communication whereas online peer review produced more comments. The researchers suggest that both modes should be used to help students improve their writing.

**L1 and L2 Peer Review: How L1 and L2 Writers Work Together in Peer Review**

Academic writing classes in the U.S. often consist of L1 and L2 students. L2 learners come from different parts of the world with different cultural, social, and linguistic backgrounds. This presents a challenge for teachers to adapt their teaching methods to suit all students. Coordinating peer review in classes comprised of mixed L1 and L2 learners, a study by Zhu (2001) investigated differences in giving written feedback and language functions. The study was conducted on three groups with each group consisting of native and non-native speakers. The data included students’ comments and their notes during peer review discussion. The study shows that L2 learners’ participated less than their L1 counterparts. Specifically, L2 learners took fewer turns in discussion, although their overall written comments were similar to those of L1 learners.

Similarly, Cheng, R. (2013) investigated the nature and type of collaboration and interaction between native and non-native speakers of English. The researcher conducted a case study on a non-native speaker from Korea and her native classmates, who were working collaboratively with her on a writing project for two semesters. The findings reveal that there were power issues with native speakers assuming themselves as more authoritative than non-native speakers. This dynamic helped the non-native speaker develop personal coping strategies, which positively affected the outcome of the writing project.

Crossman and Kite (2012) investigated the use of peer review among native and non-native speakers of English. The study was conducted on 208 students representing 60 countries; 138 were nonnative speakers and 70 native speakers. They were asked to work in pairs and were
given the choice to select their partners. The results reveal that there is a significant improvement from the first to the final draft. Specifically, this development was observed in the following aspects: audience focus, support, organization, and writing conventions. Overall, the study found that face-to-face peer review helps L1 and L2 students develop the quality of their writing.

**Deficiencies in Past Literature / Gap in Literature**

This review of literature show that the process of peer review in L1 and L2 contexts has been studied extensively. However, there are key deficiencies that most of these studies did not address. First of all, most of the studies focused on the students’ perspectives on the issue, and only a few paid attention to teachers’ practices and perspectives (Vorobel & Vásquez, 2014). Therefore, one of the objectives of the current study is to investigate teachers’ practices and compare their perspectives to students’. Second, many of the previous studies examined peer review either in L2 contexts or on graduate students, but only a few that targeted undergraduate mixed classes (L1 and L2), specifically first-year classes. Given the importance of peer review and its common use in first-year writing programs, this study aims to thoroughly investigate the activity to determine strategies for making it more effective and beneficial for students.

Additionally, previous studies mostly compare L1 to L2, but only a few compared the perceptions of both students and instructors. It is crucial that students and instructors agree on this regard for maximum efficacy. This study employs a statistical analysis to find out if there are any significant differences in the way teachers and students think of peer review. Some researchers have identified some of the problems of peer review but failed to offer solutions. This study not only thoroughly analyzes the problems of peer review, but identifies solutions from the perspectives of teachers and students.
Chapter 3
Methodology

This chapter discusses the research methodology of the study. It begins by discussing the research design and the approach the researcher used to implement the study. Then, there is a brief description of the setting in which the study was conducted and participants involved in the quantitative as well as the qualitative parts of the study. Following this, the chapter highlights the measures taken to increase the validity and reliability of the study including the rationale for conducting a pilot study. The chapter provides details on the methods and procedures used for collecting and analyzing data. As mentioned in Chapter 1, this study investigates the practices and perceptions of instructors and L1 and L2 students towards peer review. Specifically, the study seeks to answer the following research questions:

1) What is the role of peer review in academic writing classes? What strategies do instructors use to conduct peer review?
   a) Which strategies were deemed effective by instructors?
   b) Which strategies were deemed effective by students?

2) Which types of peer review are commonly used: Face-to-face; synchronous, asynchronous?
   a) Which formats are perceived as the most effective by instructors?
   b) Which formats are perceived as the most effective by students?

3) Which aspects of the writing skill do students (native and non-native speakers) and teachers focus on during the peer review process?

4) What are the potential problems of peer review?
   a) What do teachers perceive to be possible solutions?
   b) What do students perceive to be possible solutions?
5) What are the attitudes of native and non-native speaker students towards peer review? What are the perceptions of instructors towards peer review? How are their views similar or different?

**Research Design**

The mixed-method approach is believed to combine the strengths of the qualitative and quantitative approaches and enable researchers to gather enough information and investigate issues thoroughly (Creswell, 2013). Single-method approaches are considered deficient, and the mixed method approach is favored in many disciplines, including social sciences (Onwuegbuzie & Leech, 2005; Sandelowski, 2003) and applied linguistics (Creswell, 2013; Dörnyei, 2007). Creswell (2013) has provided one of the most frequently quoted definitions:

> an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone. (p. 4)

For purpose of the current study, which sought to provide an in-depth examination of the issues, the mixed-method approach was employed by triangulating trends from quantitative and qualitative data. Quantitative measures are used to examine the perceptions of both students and instructors on various aspects of peer review and to find out if there are any statistically significant differences between students’ and teachers’ perspectives. The findings of the quantitative analysis are supplemented by qualitative data in order to achieve a more in-depth understanding of the trends and the reasons for certain answers.
Setting of the Study and Participants

The study was conducted at a public mid-south university in the United States. Many of the students joining this university are first-generation attendants. They come from different parts of the U.S. and the rest of the world. Students of all majors are required to take at least one academic writing class. The selection of this institution made it possible for the researcher to target L1 and L2 students with different educational backgrounds. The English Department oversees the writing program, which includes about 50 instructors. Each instructor teaches a minimum of 40 students. The classrooms hold a maximum of 24 students, with moveable desks which allow easy formation of groups and help facilitate interactions and group discussions.

The participants were academic writing instructors and students. Students were selected according to several criteria. They had to be first-year students enrolled in academic writing classes. Many universities across the United States and globally require first-year students to register in academic writing classes. This is due to the importance of writing for all different majors. The university, where the study was conducted, require students to fulfill certain requirements before they can join any of the writing courses. They must satisfy any of the following: 1) an ACT English score of 18 or above, or (2) an SAT verbal score of 450 or above, or (3) a satisfactory score on a placement exam administered by the University Testing Center. Those who do not meet these requirements must successfully complete a developmental composition class with a minimum grade of "C" before proceeding to the first writing class. The final sample (Table 1) included 124 native speakers of English (NSOE) and 18 non-native speakers (NNSOE). The NNSOE students had different linguistic backgrounds, included in Table 1. There were similar proportions of male (47%) and female (53%) student participants.
The teacher sample consisted of full time instructors and teaching assistants. The majority of the teachers were NSOE (90%) with only 10% of NNSOE teaching assistants. Among them 60% were females, whereas 40% were males.

Table 1: Participants’ Demographic Information

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<tr>
<th>Number</th>
<th>Males</th>
<th>Females</th>
<th>NSOE</th>
<th>NNSOE</th>
<th>Total of participants</th>
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<tr>
<td>Students</td>
<td>66 (47%)</td>
<td>76 (53%)</td>
<td>123 (87%)</td>
<td>18 (13%)</td>
<td>142</td>
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<tr>
<td>Teachers</td>
<td>8 (40%)</td>
<td>12 (60%)</td>
<td>18 (90%)</td>
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Ethical Consideration

The privacy of the participants was strictly observed and the information they provided was summarized only for research purposes. Their participation was completely voluntary and participants were given the choice to withdraw at any time with the assurance that their data would not be used in this study. All information provided by the participants was treated in accordance with the limits provided by the University of Memphis Institutional Review Board (IRB). If participants mentioned their identity during the process of data collection, their information was coded with pseudonyms. All data were kept confidential.

Data Collection Procedure

In a mixed-method approach, researchers use different strategies for data collection, analysis, and interpretations. According to Creswell (2013), the three basic mixed-method designs are: Convergent Parallel, Explanatory Sequential, and Exploratory Sequential. In the Convergent design, the researcher collects the quantitative and qualitative data at the same time,
analyzes them separately, merges the results to obtain a comprehensive understanding of the issue, and compares the findings. The Explanatory Sequential approach involves two phases where the researcher collects quantitative data, analyses the results and uses the findings to design the qualitative part of the study. The reversed version of this approach is the Exploratory Sequential design in which the researcher conducts qualitative research first and then uses the results to plan the quantitative phase (Creswell, 2013). This study adapts the Convergent Approach because the qualitative and quantitative data were collected concurrently, analyzed separately, and the results were merged during interpretation. Additionally, this design allowed the researcher could get a comprehensive understanding of participants’ views and practices of peer review.

The selection of different research instruments is meant to study the peer review process thoroughly. Many researchers opt to employ more than one research instrument to produce a more comprehensive analysis of the issue than a single instrument would have been able to yield. The researcher used three instruments to collect data, a practice referred to as a “methodological triangulation,” defined by Brown & Rodgers (2002) as an “attempt to understand some aspects of human behavior by studying it from more than one standpoint, often making use of both quantitative and qualitative data in doing so” (p. 243). In other words, this process refers to the practice of using multiple sources to examine the same research problem (Mackey & Gass, 2016). The rationale behind this approach is a desire to increase the reliability and validity of the study, and to minimizes the “observer’s paradox” (Brown & Rodgers, 2002). As Johnson (1992) noted, “the value of triangulation is that it reduces observer or interviewer bias and enhances the validity and reliability (accuracy) of the information” (p. 146). By using this approach, the researcher could address many issues concerning the use of peer review in academic writing.
The data were collected over two semesters, spring and summer. Following the approval of the Institutional Review Board (IRB), the researcher asked the department’s permission to contact all the academic writing instructors (Total = 50) and 250 of their students. Individual emails were sent to all instructors asking them to participate in an online survey (see appendix H). They were encouraged to send a different email to their students (see appendix G). It was made abundantly clear that participation was voluntary. Following the surveys, the researcher randomly selected four instructors for observations and interviews. They were selected based on their experiences; two experienced full-time instructors and two teaching assistants who had been teaching for a relatively short period of time.

Instruments

**Questionnaires.** Questionnaires are considered to be effective tools to gather data (Dörnyei, 2003). Online questionnaires have been gaining popularity among researchers today for several reasons. They enable researchers to target a large number of participants without hiring assistants. Additionally, online questionnaires make the task of statistical analysis easier, more accurate, and presents the questions in an interactive way that is impossible to do with paper surveys (Witt, 1997).

The study employed two different questionnaires; one for students and one for instructors. They were created using a university-approved software named Qualtrics. The instructor’s questionnaire consisted of 18 questions with the first four dedicated for demographic information. It included multiple choice questions with spaces for narrative comments, Likert-scale, and open-ended.

The first section consisted of 6 yes/no and multiple choice questions with follow up
questions to explain their choices. For instance, a yes-no question on whether instructors provide students with specific guidelines is followed by “if yes, explain what kind of guidelines you provide? In What form? Are these guidelines based on the writing rubric that you use to assess students’ writing? In the event the instructor selected “no,” the follow up question would be “If no, explain why you prefer unstructured peer review.” The survey was designed in such a way that if they clicked on an option, it would automatically show the follow-up question(s), as is visible in Figure 1 below.

| When you ask students to do peer reviews, do you provide them with specific guidelines? |
|---------------------------------|---------------------------------|
| Yes                             | No                              |

10.a. If yes, explain what kind of guidelines you provide? In what form? Are these guidelines based on the writing rubric that you use to assess students’ writing?

| When you ask students to do peer reviews, do you provide them with specific guidelines? |
|---------------------------------|---------------------------------|
| Yes                             | No                              |

10.b. If no, explain why you prefer unstructured peer review.

**Figure 1**: A sample of yes/no question from the web-based survey

The questions in the first section focused on the instructors’ perceptions on the purpose of incorporating peer reviews in their academic writing classes. It also identified the frequency with which instructors integrate peer review into their classes, the types of peer review employed (e.g., online, paper-based, etc.), whether or not they train their students prior to the exercise, and whether or not they provide students with specific guidelines.

The second section consists of 8 questions of varied types (yes/no, multiple choice, Likert-scale, and open-ended). This section focused on the different aspects of writing they direct students to focus on (e.g., grammar, syntax, purpose, organization, format, etc.). It asks
instructors whether or not they examine peer review feedback and give their own evaluations to the reviewers. A Likert-scale question solicited the instructors’ opinion of peer review in terms of how helpful it is for improving students’ academic writing. They were asked if they had the chance to use or not use peer review, what they would do and why. This section also focused on the potential problems of peer review (e.g., time constraints, institutional constraints, students’ lack of confidence, etc.). The part ended with two open-ended questions asking the participants to think of solutions to the problems they listed in a previous question. The last question asked the instructors to mention the methods/strategies that they think would make peer review a more effective tool for teaching academic writing skills.

The students’ questionnaire was also designed using the same software, Qualtrics. It consisted of 22 questions. Like the instructors’ survey, it included different types of questions (yes/no, multiple choice, Likert-scale, open-ended). The first section consisted of 11 questions with the first four designed to collect demographic information. The questions in the students’ survey are similar to instructors’ but they were tailored to their perspectives. Students were asked how often their teachers ask them to participate in peer review, what types and formats they use, whether they prefer structured or unstructured peer review and why, which aspects they focus on, and if their teachers give them feedback on the quality of their reviews.

The second section focused on students as reviewers: how helpful the practice is, how confident and comfortable they are giving and receiving feedback, whether they prefer to do or not do peer review, and the problems they encounter in peer review contexts. The last five questions asked what should be done to make peer review more effective, how instructors could solve potential problems, and which formats the students like their instructors to use and why.
**Observations.** To capture both perspectives on peer review and how teachers and students interacted during this process, observation is considered an effective tool to achieve this purpose (Mulhall, 2003). The researcher selected four instructors who participated in the survey to observe how they employ peer review in their classes. The selection was based on their teaching experience: two participants considered themselves experienced, and two did not. During the observation, the researcher ensured that his presence did not interfere with the natural flow of the class. He observed silently and unobtrusively, focusing primarily on the following issues:

- How the instructors prepare/train students for the peer review workshop
- How groups are formed
- Whether or not instructors use structured or unstructured peer review
- How peer review takes place (how do students start, how long they take to review each paper, how they interact with each other, how they give and receive feedback)
- The role instructors played: how they manage the sessions, do they evaluate the quality of peer review, what materials they use to facilitate the process

**Post-Observation Questionnaire.** The researcher arranged with the selected teachers to ask students to reflect on their experience in the peer review session in writing. When the students finished the peer review process, they were asked to answer a few questions on how helpful they felt the peer review session had been for improving their writing. They identified about the strengths and weaknesses of the sessions and asked what could be done to make them more helpful (see appendix D). Participation was voluntarily.

**Semi-Structured Interviews.** There are several types of interviews that includes
structured, semi-structured, unstructured, and informal. According to Savin-Baden and Major (2013), “in a semi-structured interview, the researcher not only follows some preset questions but also includes additional questions in response to participant comments and reactions” (p. 359). Since the researcher had only one opportunity to interview the participants, this type of interview allowed the researcher to ask additional questions during the discussion while keeping the interaction focused (Savin-Baden and Major, 2013).

The researcher interviewed four of the instructors who were previously observed to further investigate their use of peer review and the reasons behind their use of certain strategies. Some interview questions were adapted from Vorobel & Vásquez (2014) with their permission (See appendix J). The participants began by describing their educational background, their years of teaching experience, and how they were trained to conduct peer review sessions. Next, they were asked to define peer review, how prepared they are to facilitate peer review sessions, why they choose to use this activity in their writing classes, what types of training they provide for L1 and L2 learners, and whether or not they adopt a different approach for L2 students. The instructors went on to address problems they encounter and narrate their approaches to solving them, and finally identifying the peer review strategies they have used and were deemed successful (see full list of questions in Appendix E). After all the interviews were conducted, the researcher hired an assistant to help with transcribing the audiotaped interviews into text. Quotes from the participants are used throughout the data interpretation.

**Demographics about the participants in the observations and interviews**

As mentioned previously, four instructors were observed and interviewed. Two of them are full time instructors and they have been teaching for over 10 years. They were labeled as the experienced group. The other two had been teaching for less than 5 years. This group was
labeled as less-experienced. Table 2 below provides more information about these participants.

To protect the identities of the participants, each subject was assigned a pseudonym.

Table 2: A Description of the Participants who were Observed and Interviewed

<table>
<thead>
<tr>
<th>Participant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicole</td>
<td>Nicole is a full-time instructor at a mid-south public university in the U.S. She is a Ph.D. candidate in English literature. She has been teaching English for over 10 years. She teaches several classes in English academic writing. She is a native speaker of English.</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Elizabeth is a teaching assistant at a mid-south public university in the U.S. She is a Ph.D. candidate in Composition Studies. She has been teaching English writing for over 10 years. She currently teaches several classes in English academic writing. She is a native speaker of English.</td>
</tr>
<tr>
<td>Anjal</td>
<td>Anjal is a full-time instructor at a mid-south public university in the U.S. He has a master degree in teaching English as a second language. He has been teaching English for fewer than 5 years. He teaches several classes in English academic writing. He is a native speaker of English.</td>
</tr>
<tr>
<td>Rosa</td>
<td>Rosa is a teaching assistant at a mid-south public university in the U.S. She is a Ph.D. candidate in Applied Linguistics and ESL. She has been teaching English writing for fewer than 5 years. She currently teaches several classes in English academic writing. She is a non-native speaker of English.</td>
</tr>
</tbody>
</table>

Reliability and Validity of the Instruments

Pilot Study. Pilot studies are important parts of the research process (Van Teijlingen, Rennie, Hundley, & Graham, 2001) to enhance the validity and reliability of the research instruments. Prior to implementing the research instruments, the researcher conducted a pilot study to ensure that all items were clear and fulfilled the purposes of the study. It was performed on a group of 29 students and instructors not recruited to participate in the extended data collection of the main study. The pilot lasted for a period of two months. Participants were asked to respond to the survey questions and write comments on anything that was not clear. All of the participants found the questions to be clear and meaningful.
After conducting the pilot study, the instruments were judged by four specialists in applied linguistics and composition. Some of them expressed concerns about ambiguity in some items. These comments helped the researcher revise the instructions by simplifying them and making them clearer. A copy of the survey is available in Appendix A.

After the survey was conducted and data aggregated, the survey items which included multiple choice answers were subjected to reliability analysis through Cronbach’s alpha test. This test is used to establish the level of internal consistency of the items on a test or survey (George & Mallery, 2010). Alpha levels are interpreted according to the following reference numbers: alpha > .9 = excellent internal consistency; alpha > .8 = good internal consistency; alpha > .7 = acceptable internal consistency. When the values drop below .7, the internal consistency is questionable, while values close to .5 show great disparities in the consistency of the items in relation to the construct they are measuring. The results from Cronbach’s analysis are summarized in Table 3. They show an acceptable level of internal consistency between the 35 survey items that required a multiple-choice response. The consistency is not excellent, but it is appropriate considering the fact that the instrument was not used for assessment, but to elicit perspectives about the use of peer review in teaching academic writing.

Table 3: Cronbach’s Alpha Results

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>.704</td>
<td>.658</td>
</tr>
</tbody>
</table>

**Quantitative Data Analysis**

The survey data were processed through the Statistical Package for the Social Sciences
(SPSS) version 24. The analysis included calculating exploratory statistics for understanding the data; descriptive statistics (mean, standard deviation, 95% confidence interval); frequency tables and percentages, and inferential statistics for comparing the three groups of participants on their responses to the different items on the survey. Considering the presence of skewed distributions, frequency data, and unequal number of participants in the groups, the data were analyzed through the non-parametric Kruskal-Wallis test for k-independent samples, which is recommended in such cases (e.g. Field, 2009). Following this analysis, post hoc tests were performed to determine whether or not significant differences between the groups existed.

**Qualitative Data Analysis.**

The qualitative data, obtained through open-ended questions, observation and interviews, were analyzed using content analysis for qualitative research. For open-ended questions, the participants’ responses were grouped according to different themes with sample quotes. Each theme is supported by a specific percentage of participants, which is included with the analysis. Students’ and teachers’ comments were compared to extract trends and to identify similarities and differences. The data collected from the observations was used to enrich the analysis of the different research questions. Interviews were audiotaped and transcribed. Since there were only 4 interviewees, all of responses were presented while trying to compare the experienced and the inexperienced teachers.
Chapter 4

Results

This chapter presents the results of the quantitative and qualitative data. The quantitative results are extrapolated from the surveys that were distributed to 124 NSOE students, 18 NNSOE students, and 20 teachers. The qualitative findings are based on the data gathered through classroom observations and interviews. As mentioned previously, four instructors were observed and interviewed. Two of them were categorized as experienced (≥ 10 years of experience), whereas the other two formed the less experienced sample (≤ 5 years of experience).

The results are organized in the order the research questions were presented to the participants. The qualitative and quantitative findings are presented together when they refer to the same issue and in separate sections when they relate to different questions.

Peer Review Through the Eyes of the Teachers

This section contains findings extrapolated from the interview data. The first question in the interview was “What is peer review?” The four instructors gave four different definitions as illustrated in table 4 below.

Table 4: Participants’ Definitions of Peer Review

<table>
<thead>
<tr>
<th>Participant</th>
<th>Definition of peer review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicole</td>
<td>“To share and critique the work of our peers.”</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>“Its students working together and reading each other's work and giving like criticizing what they read.”</td>
</tr>
<tr>
<td>Anjal</td>
<td>“An opportunity for a classmate to read their peers work and to offer their thoughts to make suggestions, to say good words when need someone attention. That’s sort of thing.”</td>
</tr>
<tr>
<td>Rosa</td>
<td>“It is when I have two students or more reading, and evaluating, and responding to each other's work.”</td>
</tr>
</tbody>
</table>
From the definitions above, all instructors perceive peer review to be a form of evaluation. They used words like critique, criticize, make suggestions, and evaluate. The instructors viewed peer review as an interactive process, in which the students can be organized into pairs or small groups. The process involves reading, providing feedback, and attentive listening.

In regard to teachers’ preparation to conduct peer review sessions, none of the instructors had been trained in how to conduct peer review sessions. They reported that they learned by doing the activity in their academic writing classes. Two of the instructors who participated in this study felt that they had some experience, though they were not sure if their experience had helped them facilitate the exercise effectively. Interestingly, 3 out of the 4 instructors interviewed reported that working at the university writing center, where they edited and proofread students’ papers, provided first-hand training and experience in conducting peer review sessions. A sample from the interview with Nicole illustrates this point:

*I think the best training I got for peer review was really the year I worked in the Writing Center reviewing and tutoring students, because I think that taught me a lot about what students don't understand and the assumptions we make about what they understand, because they're much more forthcoming with their tutor than they are with their instructor.*

**Objectives of Using Peer Review**

When asked to articulate the purpose of using peer review, teachers mentioned different objectives. They all agreed that the main goal is for students to discuss their work and give feedback to each other. Nicole finds it useful because it allows students to talk about their work
and to make sure they are able to convey their intended meaning to the audience. Elizabeth adds that talking about their writing or reading it out loud gives students the sense of being writers. The experienced teachers agreed on two goals of peer review: students’ ability to discuss their work and students’ awareness of the audience their work addressed. Conversely, the goals set by the inexperienced teachers are not very informative. They seem to integrate peer review into their classes either because it is part of the syllabus or because it saves them time and effort in grading students’ papers. Table 5 below shows in detail the objectives of using peer review, according to the interviewed instructors.

Table 5: Teachers’ Objectives in Using Peer Review

<table>
<thead>
<tr>
<th>Participant</th>
<th>Objectives of using peer review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicole</td>
<td>“It allows them to play that bifurcated game that is writing.”</td>
</tr>
<tr>
<td></td>
<td>“Peer review is an opportunity to understand your audience. Students in a peer review session that act as the ideal audience and this is their opportunity to communicate to the writer.”</td>
</tr>
<tr>
<td></td>
<td>“Students have a chance to hopefully develop some dialogue or conversation about what they’ve been doing in class.”</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>“Peer review gives students a chance to talk about writing. “It makes them feel like a writer if they are talking about their writing.” Students read aloud their papers to their peers. This helps students hear exactly what they wrote rather than what they think they wrote on their paper.”</td>
</tr>
<tr>
<td>Anjal</td>
<td>“It’s one of the listed objectives for the course.”</td>
</tr>
<tr>
<td></td>
<td>“It is helpful for them to see their classmate's work and compare their own efforts with the efforts of their peers.”</td>
</tr>
<tr>
<td>Rosa</td>
<td>“Save time and give students the opportunity to have at least one person look over their work.”</td>
</tr>
</tbody>
</table>
Training Students on Peer Review

The data for strategies the teachers use when they train students for peer review is extracted from the interviews and the instructors’ survey. Eighteen out of 20 teachers (90%) reported that they train students prior to peer review. They use different strategies such as modeling, demonstration, structured peer review, written guidelines, reading, and discussion (Table 6). Modeling is used by 33% of teachers. It works by performing one example with one of the students while the entire class observes in order to learn how to do peer review on their own.

Table 6: Strategies Used by Instructors to Train Students on Peer Review

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Illustrations</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modeling</td>
<td>“I mimic the practice for them. We practice by looking at an example essay and doing what I am asking the students to do when they peer review.”</td>
<td>33%</td>
</tr>
<tr>
<td>Demonstration</td>
<td>“I briefly explain the process of peer review and will sometimes provide a list of questions they need to answer about their peers’ work.”</td>
<td>27%</td>
</tr>
<tr>
<td>Written Guidelines including Dos and Don’ts</td>
<td>“I provide written instructions/prompts for students to use.”</td>
<td>27%</td>
</tr>
<tr>
<td>Structured Peer Review</td>
<td>“I give them a list of peer-review questions; during the peer-review sessions, I walk around and make sure they understand the questions and know what to do with the questions. I also ask my students to focus on different aspects when they peer review each other's paper: first the content, then mechanical issues.”</td>
<td>11%</td>
</tr>
<tr>
<td>Reading and Discussion</td>
<td>“I have them read an essay on the peer review process in advance of their first peer review. We discuss in class, before and during the peer review, guidelines and expectations for their interactions with their peers and their essays.”</td>
<td>7%</td>
</tr>
</tbody>
</table>

Other teachers (27%) reported that they instead lecture and demonstrate how peer review should be conducted. They sometimes use PowerPoint slides and videos to supplement their explanations. Similarly, 27% use written instructions that primarily focus on what students
should or should not do. One of the instructors reported that she provides her students with a list of dos and don’ts. Eleven percent use structured peer review. They provide students with a worksheet featuring a number of questions, then expect them to answer all of the questions throughout the duration of the peer review session. Finally, 7% train students through reading and discussion. They ask students to read about peer review or read an article in class, then discuss the main ideas of the reading. All of these strategies are illustrated with sample quotes from the collected data (See Table 6 above).

The teachers who reported that they don’t train students on peer review (10%) provided two reasons for their decision. The first reason is that students should have had prior experience with peer review and there is therefore no need for training them. The second reason is teacher’s lack of expertise in training students on how to do peer review, as illustrated by Anjal: “We do discuss what is required of the paper...but I have yet to come up with a good modeling technique.”

**Strategies used to conduct peer review sessions**

The strategies discussed in this section are based on the observations and interviews.

1- Reading-out-loud strategy

This strategy was used by both of the experienced teachers (Nicole and Elizabeth). In this strategy, the instructors divide the students in pairs or in groups of 3 to 5. Each student is asked to read a paper aloud to their classmates while the rest of the group listens and writes notes. Once the student finishes reading, the group discusses ways the paper can be improved. Teachers believe this to be an effective method because they find it validates the students’ identities as writers. They also believe that students feel like writers while talking about their writing. Additionally, by having students listen, they tend to make more sense of their writing
and find ways to work on the intended meanings. Nicole and Elizabeth reported that they have employed several strategies and found this specific technique to be the most effective. Following this strategy, students work in pairs or in groups of 3 to 5. According to Elizabeth:

The act of having someone read their paper to them is usually very enlightening about what is actually on the paper versus kind of what you think is on the paper. So if someone reads my paper to me I hear exactly what I wrote rather than what I think I wrote, because sometimes what I think I wrote is a lot better than actually what's on the page, and so students see that firsthand they won't need a peer review.

2. Structured Peer Review

This strategy is used by Rosa. It is primarily structured according to a worksheet prepared by the instructor. The peer review session starts with the instructor explaining the worksheet and how students should use it. Then, students are divided into groups of 3. After they are split into groups, the students swap their papers and begin reading. Each student in the group is expected to review two papers. As they read, they work to answer all of the questions in the worksheet. By the end of the worksheet, there is a section where reviewers are asked to give a grade to their classmates based on certain criteria. If they finish before the class period ended, they would be granted time to discuss their comments.

The teacher’s role is limited to answering questions if any and making sure all students fill out the worksheets. The instructor allows students to take pictures of these sheets and then collect and grade them based on the quality of feedback. The teacher returns graded worksheets back to students the following class.

3. Mixed Approach
This strategy is used by Anjal. He combines structured peer review with the reading-out-loud strategy. The peer review is conducted in two sessions. In the first session, the students are asked to self-assess themselves through reading their papers and answering a few questions. They were asked to answer questions like: How confident are you in the quality of your work so far? What has been most challenging for you as you’ve worked on this issue? What aspects of your writing need the most attention or revision?

The second session consists of peer work, where all students were divided into pairs. Before exchanging their papers, students were asked to use their self-reflections from the previous session to give their partners an idea of what their paper is about. Next, the students would read the paper and answer questions about content, structure, style, and syntax.

After reading their partner's paper and filling out the worksheet, reviewers were asked to choose a passage from the essay (one paragraph or two) that seemed well written. They read the passage out loud to their partner and explain why they chose it. Then, they choose the passage that needs revision (or deletion), and read that out loud to their partner and explain why it needs work.

The role of the instructor is more of facilitating the process and addressing their inquiries. When they are done peer reviewing, the instructor would go around and ask each group how their papers were. He would pose questions like, "How did you find her paper?" "What stood out?" "What do you think of each other's paper?" "Do you have a sense of what you need to do between now and the due date for the final draft?" At the end of class, he reiterated the value of peer review.
Results of Group (NSOE students, NNSOE students, teachers) Comparisons

To compare the three groups of participants on their responses to the quantitative part of the survey, data were analyzed through frequency analysis, descriptive and inferential statistics using the Statistical Package for the Social Sciences (SPSS) version 24. Since data did not meet the assumptions for parametric tests, due to skewed distributions, predominance of frequency scales, unequal number of subjects in the groups, lack of between-group homogeneity of variance on most of the questions, etc., the inferential statistics employed non-parametric analyses, which are considered to be more robust against such violations (Field, 2009). Specifically, the following tests were performed: Kruskal-Wallis for k-independent samples, followed by post hoc tests for those survey questions which showed statistically significant between-group differences. The tests that were not significant, were not subjected to post hoc analyses. Depending on the number of post-hoc analyses, the initial alpha level = .05 was corrected through Bonferonni adjustment in order to control for Type I error (Hinkle, Wiersma, & Jurs (1998).

According to Cumming (2012), significant p-values are not a sufficient evidence for making inferences about the practical importance of the results. It is necessary to consider the effect size which gives a more precise idea about the significance of the existing between group differences. In view of this recommendation, effect size values were calculated for each of the omnibus Kruskal-Wallis tests (Chi-square) / N- 1). The obtained effect size values were interpreted as partial eta squared (partial \( \eta^2 \)), following Cohen’s (1988) reference numbers: 0.01 = small effect; 0.09 = medium effect; 0.25 = large effect.
The three groups, (NS students, NNS students, teachers) were compared on each quantitative survey question and its respective options. The results are presented question by question, organized in tables and illustrated by figures.

**Frequency of Using Peer Review in Academic Writing Classes**

The first question on the survey asked the participants to report on their frequency of using peer review in academic writing classes. They were given four options: *with all major assignments*, *with more than half of the major writing assignments*, *with less than half of the major writing assignments*, and *never*. The frequency statistics in Table 7 below show that 75% of teachers and 74% of students (NS and NNS) reported that they use peer review *with all major assignments*, 20% of instructors, 18% of students use peer review *with more than half of the assignments*, and 5% of instructors and 7% of students use it *with less than half of the assignments*. Only 1% of the students selected the option *never*.

**Table 7: Frequency of Peer Review Use in Academic Writing Classes**

<table>
<thead>
<tr>
<th>Respondents</th>
<th>N</th>
<th>With all major assignments</th>
<th>With more than half of the major writing assignments</th>
<th>With less than half of the major writing assignments</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructors</td>
<td>20</td>
<td>75%</td>
<td>20%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Students</td>
<td>142</td>
<td>74%</td>
<td>18%</td>
<td>7%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Common types of peer review modes (Face-to-face; synchronous, asynchronous)**

The second question aimed to elicit data regarding the types of peer review that are commonly used in academic writing classes. Specifically, the following options were listed: *face-to-face during class; paper-based during class; online during class; online as homework; not used at all, and other*. Excluding the last option “other”, 5 Kruskal-Wallis tests were
performed to check for significant between group differences. The results of the descriptive statistics and Kruskal-Wallis tests are summarized in Table 8 and 9.

The Kruskal-Wallis results (Table 9) show only one significant between-group difference on the use of *online peer review assigned as homework*, Chi-square = 6.648, \( p = .036 \). The effect size of this difference is low (.041) according to Cohen’s (1988) reference values. The rest of the options show lack of significant differences between the groups with \( p \)-values > .05 and very small effect size values.

Based on the results of Kruskal-Wallis, *post hoc* pair-wise comparisons were performed only for *online peer review assigned as homework*. The results are summarized in Table 10. The *alpha level* was adjusted to .0166 (\( .05/3 \)) since three pairs of comparisons were involved.

**Table 8: Descriptive Statistics**

<table>
<thead>
<tr>
<th>What types) of peer review are used in academic writing classes?</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>95% Confidence Interval for Mean</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NSstudent</td>
<td>124</td>
<td>.85</td>
<td>.362</td>
<td>.032</td>
<td>.78/.91</td>
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<td>1</td>
</tr>
<tr>
<td></td>
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<td>18</td>
<td>.78</td>
<td>.428</td>
<td>.101</td>
<td>.57/.99</td>
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<td>1</td>
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<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.95</td>
<td>.224</td>
<td>.050</td>
<td>.85/1.05</td>
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<td>1</td>
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<tr>
<td>1 Face-to-face peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>.56</td>
<td>.499</td>
<td>.045</td>
<td>.47/.65</td>
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<td>1</td>
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<td>.461</td>
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<td>.49/.95</td>
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<td>1</td>
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<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.80</td>
<td>.410</td>
<td>.092</td>
<td>.61/.99</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2 Paper-based written peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>.0</td>
<td>.177</td>
<td>.016</td>
<td>.00/.06</td>
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<td>1</td>
</tr>
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<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.0</td>
<td>.000</td>
<td>.000</td>
<td>.00/.00</td>
<td>0</td>
<td>1</td>
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<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
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<td>.366</td>
<td>.082</td>
<td>-.02/.32</td>
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<td>0</td>
</tr>
<tr>
<td>3 Online peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>.03</td>
<td>.126</td>
<td>.011</td>
<td>-.01/.04</td>
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<td>1</td>
</tr>
<tr>
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<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00/.00</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.15</td>
<td>.000</td>
<td>.000</td>
<td>.00/.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4 Online peer review assigned as homework</td>
<td>NSstudent</td>
<td>124</td>
<td>.02</td>
<td>.126</td>
<td>.011</td>
<td>-.01/.04</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00/.00</td>
<td>0</td>
<td>0</td>
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<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00/.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 Don't use any peer review</td>
<td>NSstudent</td>
<td>124</td>
<td>.0</td>
<td>.126</td>
<td>.011</td>
<td>-.01/.04</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.00</td>
<td>.000</td>
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<td>.00/.00</td>
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<td>0</td>
</tr>
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<td></td>
<td>Teachers</td>
<td>20</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00/.00</td>
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</table>
Table 9: Kruskal Wallis Results for Between-group Comparisons

<table>
<thead>
<tr>
<th>What types) of peer review are used in academic writing classes?</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Chi square (df 2)</th>
<th>p (Asympt. Sig)</th>
<th>Effect size chi-square/N-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 Face-to-face peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>81.09</td>
<td>2.320</td>
<td>.313</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>75.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>89.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2 Paper-based written peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>77.57</td>
<td>5.406</td>
<td>.067</td>
<td>.034</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>91.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>97.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3 Online peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>81.92</td>
<td>.910</td>
<td>.634</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>78.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>82.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T4 Online peer review assigned as homework</td>
<td>NSstudent</td>
<td>18</td>
<td>78.00</td>
<td>6.648</td>
<td>.036*</td>
<td>.041</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>20</td>
<td>90.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>80.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T5 Don't use any peer review</td>
<td>NSstudent</td>
<td>124</td>
<td>81.81</td>
<td>.617</td>
<td>.735</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>80.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>80.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * = significant at p < .05.

Table 10: Post hoc Comparisons for Significant Kruskal-Wallis Tests

<table>
<thead>
<tr>
<th>Types with significant difference b/n groups</th>
<th>Pair-wise comparisons</th>
<th>N</th>
<th>%</th>
<th>Chi-square (df 1)</th>
<th>Sig. (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4 Online peer review assigned as homework</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>3%</td>
<td>0.593</td>
<td>.441</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NSstudents vs.</td>
<td>124</td>
<td>3%</td>
<td>5.172</td>
<td>.024*</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>0%</td>
<td>2.854</td>
<td>.059</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * = p ≤.05, but not significant at alpha = .0166
According to the adjusted level of significance, none of the pair-wise comparisons is significant at the corrected alpha level: NS students - NNS students, $p = .441$; NS students - teachers, $p = .024 > .0166$; NNS students - teachers, $p = .059$. However, there are still descriptive differences, showing that the highest percentage in the teacher’s group (15%).

The lack of significant differences between the groups shows agreement among the participants about the most commonly used modes of peer review. In this particular case, it attests as well to the reliability and truthfulness of the responses because in view of the fact that all of the participants belong to the same academic unit and share the same or similar experiences. Figure 2 illustrates the most commonly and least commonly used modes of peer review based on the percentages of participants who checked the options. *Face-to-face peer review during class time* is the most frequently used type of peer reviews. It is followed by *paper-based written peer review during class time*. Following these two types in frequency is the use of *online peer review during class time*, and lastly *online peer review as homework*. The results show that *online peer review* is not as common as *in-class face-to-face or paper-based peer review*.

![Figure 2: Types of peer review ordered from the most commonly used to the less commonly used.](image-url)
The Most Effective Format of Peer Review

The question on the most effective formats of peer review provided students with 5 options: *face-to-face during class; paper-based during class; online during class; online as homework*, and *other*. For each option, the participants were asked to provide narrative comments justifying their choice. Excluding the last option “other”, 4 Kruskal-Wallis tests were performed to check for significant between-group differences. The results of the descriptive statistics and Kruskal Wallis tests are summarized in Tables 11 and 12.

Table 11: Descriptive Statistics

<table>
<thead>
<tr>
<th>Which format do you find the most effective?</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>95% Confidence Interval for Mean</th>
<th>Min</th>
<th>Max</th>
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<td></td>
<td></td>
<td></td>
<td>95% Confidence Interval for Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Min</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Max</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Face-to-face peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>.81</td>
<td>.397</td>
<td>.036</td>
<td>.74</td>
<td>.88</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.72</td>
<td>.461</td>
<td>.109</td>
<td>.49</td>
<td>.95</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.80</td>
<td>.410</td>
<td>.092</td>
<td>.61</td>
<td>.99</td>
<td>0</td>
</tr>
<tr>
<td>2 Paper-based written peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>.35</td>
<td>.478</td>
<td>.043</td>
<td>.26</td>
<td>.43</td>
<td>0</td>
</tr>
<tr>
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<td>NNSstudent</td>
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<td>.39</td>
<td>.502</td>
<td>.118</td>
<td>.14</td>
<td>.64</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.35</td>
<td>.489</td>
<td>.109</td>
<td>.12</td>
<td>.58</td>
<td>0</td>
</tr>
<tr>
<td>3 Online peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>.03</td>
<td>.177</td>
<td>.016</td>
<td>.00</td>
<td>.06</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.00</td>
<td>0</td>
</tr>
<tr>
<td>4 Online peer review assigned as homework</td>
<td>NSstudent</td>
<td>124</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.06</td>
<td>.236</td>
<td>.056</td>
<td>-.06</td>
<td>.17</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.05</td>
<td>.224</td>
<td>.050</td>
<td>-.05</td>
<td>.15</td>
<td>0</td>
</tr>
<tr>
<td>5 Other</td>
<td>NSstudent</td>
<td>124</td>
<td>.01</td>
<td>.090</td>
<td>.008</td>
<td>-.01</td>
<td>.02</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.15</td>
<td>.366</td>
<td>.082</td>
<td>-.02</td>
<td>.32</td>
<td>0</td>
</tr>
</tbody>
</table>

As shown in Table 12, there are only two significant differences between the groups. The first significant difference is on the use of *online peer review as homework*, Chi-square = 6.591,
\( p = .037 \), with small effect size = .04. The second significant difference is on the option *other* than the four mentioned above, \( \chi^2 = 14.828, p = .001 \), with a medium effect size = .10.

Table 12: Kruskal-Wallis Results for Between-group Comparisons

<table>
<thead>
<tr>
<th>Which format do you find the most effective?</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Chi square (df 2)</th>
<th>( p ) (Asympt. Sig)</th>
<th>Effect size chi-square/N-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 Face-to-face peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>82.32</td>
<td>.685</td>
<td>.710</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>75.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>81.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2 Paper-based written peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>81.09</td>
<td>.122</td>
<td>.941</td>
<td>.002</td>
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<td></td>
<td>NNSstudent</td>
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<td>84.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
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<td>81.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3 Online peer review during class time</td>
<td>NSstudent</td>
<td>124</td>
<td>82.11</td>
<td>1.249</td>
<td>.536</td>
<td>.02</td>
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<td>NNSstudent</td>
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<td>79.50</td>
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</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>79.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T4 Online peer review assigned as homework</td>
<td>NSstudent</td>
<td>124</td>
<td>80.50</td>
<td>6.591</td>
<td>.037*</td>
<td>.04</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>85.00</td>
<td></td>
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<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>84.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T5 Other</td>
<td>NSstudent</td>
<td>124</td>
<td>80.15</td>
<td>14.828</td>
<td>.001**</td>
<td>.10</td>
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<td></td>
<td>NNSstudent</td>
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<td>79.50</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>91.65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * = significant at \( p < .05 \); ** = significant at \( p \leq .001 \)

*Post hoc* pairwise comparisons were performed for the two significant results in Table 13: *online peer review assigned as homework* and *other*. There are four significant differences. The first one on the use of *online peer review as homework* is between NS and NNS students, \( \chi^2 = 6.889; p = .009 \). The second is between NS students and teachers, \( \chi^2 = 6.200, p = .013 \). There was not a significant difference between NNS students and teachers. In using *other* forms of peer review, there was a significant difference between teachers and students (NS and NNS). There was not a significant difference between students. This shows that teachers are more aware of more formats of peer review than their students are.
Even though there were significant between-group differences on two of the five survey options, the mean values clearly show the formats that were deemed most and least effective.

Figure 3 below demonstrates that face-to-face peer review during class time is believed to be the most effective mode of peer review. The second most effective method is paper-based written peer review during class time. According to all participants, online peer review is less effective than face-to-face or paper-based peer reviews. The least effective method is online peer review during class time.

The quantitative data show an agreement among all groups that face-to-face peer review during class time is the most effective tool of peer review (see table 11 above). When asked about the reasons why they think this format is the most effective one, 90 students (63%) and 14 instructors (70%) provided explanations. The data was coded through content analysis into...
themes and quotes were selected to illustrate each theme. Table 13 and 14 below summarizes the main themes and samples of illustrations.

![Graph](image)

**Figure 3:** Formats of peer review ordered from the most effective mode to the least effective.

Out of 90 students (63%) gave reasons for choosing the option *face-to-face peer review during class time*. Of them 30 (33%) believe that this mode is effective because it encourages discussion and interaction. Twenty six percent of the students reported that this approach yields better outcome, 23% prefer this approach because it provides them with immediate feedback, 15% perceive this method as an effective way to develop communication skills. Finally, 7% find it more personal and thus more effective. Of instructors, 14 out of 20 (70%) provided reasons why they think that *face-to-face peer review* is effective. The responses for both students and instructors are presented in two different tables below (14 and 15).

As shown in table 14 and 15 above, students and teachers provided similar reasons why they think that using face-to-face peer review during class is the most effective mode. Both
groups agreed that *face-to-face peer review* encourages discussion, develops communication skills, and provides immediate feedback. Students believe that this mode is more personal and yields better outcomes, whereas the teachers think that this approach encourages collaborative learning and allows for instructors’ intervention.

Table 14: Students’ responses to “Why *face-to-face peer review during class time* is effective?”

<table>
<thead>
<tr>
<th>Themes</th>
<th>Illustrations</th>
<th>N (%)</th>
</tr>
</thead>
</table>
| Encourages discussion           | *NS Student*: “Sometimes when they talk to me face to face it helps me understand more. It also helps by talking about whatever they may have missed on the paper.”
|                                 | *NNS Student*: “It give you the opportunity to ask questions about something you don't understand at the moment.” | 33%   |
| Yields better outcomes          | *NS Student*: “It's better to discuss the paper face to face because you can explain things more.” | 26%   |
| Provides immediate feedback     | *NS Student*: “I like the face-to-face peer review during class because I can immediate feedback from the person.” | 23%   |
| Develops communication skills   | *NS Student*: “Face to Face helps communication skills.”                      | 15%   |
| More personal                   | *NNS Student*: “Because it's more personal.”                                 | 7%    |

Table 15: Instructors’ responses to “Why *face-to-face peer review during class time* is effective?”

<table>
<thead>
<tr>
<th>Themes</th>
<th>Illustrations</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourages discussion</td>
<td>“With face-to-face peer review I feel better able to facilitate a conversation around the works being considered.”</td>
<td>36%</td>
</tr>
<tr>
<td>Develops communication skills as well as trust and honesty among students</td>
<td>Having students actually interact with each other as well as their writing is helpful in creating an environment of trust and honesty among students.”</td>
<td>22%</td>
</tr>
<tr>
<td>Provides immediate feedback</td>
<td>“I think that they can address any issues that come up more flexibly and immediately by talking rather than writing.”</td>
<td>21%</td>
</tr>
<tr>
<td>Encourages collaborative learning</td>
<td>“Having face to face interaction allows collaborative learning as the give and take advice.”</td>
<td>14%</td>
</tr>
<tr>
<td>Allows for instructors’ intervention</td>
<td>“I think it essential that I am there to facilitate peer reviews. I can often jump start reviews that are stalling or redirect reviews that are getting either off track or antagonistic.”</td>
<td>14%</td>
</tr>
</tbody>
</table>
For the second format of peer review (*Paper-based written peer review during class time*), 31 students (22%) explained why they think this mode is effective. The majority of them (61%) believe that the effectiveness of this format comes from the fact they have it written so they can refer to it later on. Thirteen percent think that this format yields better results, 16% find this format effective in finding mistakes, and 10% prefer this mode because they feel it is less awkward and therefore less intimidating. Table 16 summarizes these themes with illustrations from participants’ narrative comments.

Table 16: Why *Paper-based written peer review during class time* is effective?

<table>
<thead>
<tr>
<th>Themes</th>
<th>Illustrations</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written records to refer to</td>
<td>“I also like paper-based written peer reviews because when I go back home I can look through the notes that the other person has made on my rough draft.”</td>
<td>61%</td>
</tr>
<tr>
<td>Yields better outcomes</td>
<td>“good way to improve my work”</td>
<td>13%</td>
</tr>
<tr>
<td>Easy to find mistakes</td>
<td>“I can find my mistakes easily.”</td>
<td>16%</td>
</tr>
<tr>
<td>Less awkward and less intimidating</td>
<td>“Less awkward.”</td>
<td>10%</td>
</tr>
</tbody>
</table>

For the instructors, only 5 of them (25%) elaborated on their reasons for choosing this option. Eighty percent believe that *paper-based peer review* is effective because students can refer to later on “This way the students will have some notes to refer to outside our class.” Twenty percent reported that *paper-based* is less intimidating “It is not as intimidating or distracting as face-to-face peer review.”

Both groups provided similar reasons why this mode is effective. Specifically, both believe that using *paper-based peer review* helps students have a written record to refer to later. They agreed that this format is less intimidating than *face-to-face peer review.*
Only three students (2%), all of whom are native speakers, reported that they do not use peer review because they don’t find them effective “I don't use them because I don't find it helpful/effective. The people that do the review don't really give good feedback to you so I don't use them.”

One NS student chose the option “Other” and reported that he prefers instructor’s feedback because of grading “I personally don't enjoy peer reviews. I only like my reviews to come from the teacher. They are the ones grading, so their opinion is the only one that matters.”

The teachers who choose “Other” (total = 2) suggested that students should be sitting side by side instead of face to face because it is “less intimidating for many students. It is hard to look at someone when they are reading your paper!” One instructor recommends using a variety of modes to be able to accommodate all learners.

Aspects of Writing Skills Students (Native and Non-Native Speakers) and Teachers Focus on During the Peer Review Process

The question “Which of the following aspects of writing do you focus on when doing peer reviews?, offered 14 choices, the last of which was “Other”. Excluding the last option, 13 Kruskal-Wallis tests were performed, followed by post hoc multiple comparison tests. The results of the descriptive statistics and Kruskal-Wallis tests are summarized in Tables 17 and 18.
Table 17: Descriptive Statistics

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<tr>
<th>Which of the following aspects of writing do you focus on when doing peer reviews?</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>95% Confidence Interval for Mean Lower Bound</th>
<th>Upper Bound</th>
<th>Min</th>
<th>Max</th>
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</table>
Of the 13 Kruskal-Wallis tests, seven show significant group differences, whereas six tests reveal lack of statistical significance. High level of between-group difference is observed in relation to grammar range and accuracy ($p = .001$); spelling and punctuation ($p = .001$); evidence and examples ($p < .001$); and coherence of ideas ($p < .001$). Significance is also found for thesis statement ($p = .013$); organization ($p = .03$); and content and its relevance ($p = .008$). None of the observed significant differences shows large effect size; three show medium effect according to Cohen’s (1988) reference number of .09, including evidence and examples (.11); coherence of ideas (.10), and spelling and punctuation (.09). The remaining four significant differences are in the range of low-medium effect (Cohen’s reference number = .01).

Significance shown by the omnibus test of $k$-independent samples does not reveal sufficiently detailed information whether all compared groups are significantly different or only some of them (Field, 2009). For this reason, the seven significant omnibus tests described above were followed by pair-wise post hoc comparisons between: 1) NS student group and NNS student group; 2) NS student group and teachers; and 3) NNS student group and teachers. To control for Type I error, Bonferroni adjustments were applied as the alpha level was divided by three (.05/3) and all $p$-values were compared to $alpha = .0166$. If the $p$-values were smaller than .0166, then the difference between the respective groups was considered significant. These results are summarized in Table 19.

The post hoc tests reveal that for grammar range and accuracy, the NS students and NNS students give almost equal attention to this aspect of their peers’ writing and there is no significant difference between them. However, both groups differ significantly from their teachers as students show more attention to grammatical range and accuracy than the teachers’ group (NSstudents vs. teachers, $p < .001$; NNSstudents vs. teachers, $p = .004$).
### Table 18: Kruskal Wallis Results for Between-group Comparisons

<table>
<thead>
<tr>
<th>Which of the following aspects of writing do you focus on when doing peer reviews?</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Chi square (df 2)</th>
<th>p (Asympt. Sig)</th>
<th>Effect size chi-square/N-1</th>
</tr>
</thead>
<tbody>
<tr>
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<td>NSstudent</td>
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<td>85.30</td>
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<td>.001**</td>
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<td></td>
<td>Teachers</td>
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<td>51.20</td>
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<td>86.65</td>
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<td>17.745</td>
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<td>124</td>
<td>77.54</td>
<td>9.659</td>
<td>.008*</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>79.50</td>
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</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>107.85</td>
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<tr>
<td>A11 Coherence of ideas</td>
<td>NSstudent</td>
<td>124</td>
<td>76.90</td>
<td>17.290</td>
<td>.000**</td>
<td>.10</td>
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<td>74.50</td>
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<td>Teachers</td>
<td>20</td>
<td>116.35</td>
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<tr>
<td>A12 Citations and References</td>
<td>NSstudent</td>
<td>124</td>
<td>80.94</td>
<td>1.347</td>
<td>.510</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>76.00</td>
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</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>89.95</td>
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<td>A13 MLA format</td>
<td>NSstudent</td>
<td>124</td>
<td>81.65</td>
<td>.427</td>
<td>.808</td>
<td>.002</td>
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<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>76.50</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>85.05</td>
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</tr>
</tbody>
</table>

Note: Significance ** = \(p \leq 0.001\); Significance * \(p < 0.05\)
Table 19: Post hoc Comparisons for Significant Kruskal-Wallis Tests

<table>
<thead>
<tr>
<th>Aspects with significant difference b/n groups</th>
<th>Pair-wise comparisons</th>
<th>N</th>
<th>%</th>
<th>Chi-square (df 1)</th>
<th>Sig. (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Grammar range and accuracy</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>62%</td>
<td>0.139</td>
<td>.709</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>67%</td>
<td>8.241</td>
<td>.004*</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4 Spelling and punctuation</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>60%</td>
<td>0.110</td>
<td>.740</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>56%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>56%</td>
<td>6.741</td>
<td>.009*</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5 Thesis statement</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>48%</td>
<td>2.472</td>
<td>.116</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>75%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>28%</td>
<td>8.251</td>
<td>.004*</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>75%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A7 Organization</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>67%</td>
<td>0.040</td>
<td>.357</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>78%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>78%</td>
<td>2.394</td>
<td>.122</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A9 Evidence and examples</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>52%</td>
<td>5.697</td>
<td>.017*</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>22%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>22%</td>
<td>17.383</td>
<td>.000**</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A10 Content and its relevance</td>
<td>NSstudents vs.</td>
<td>124</td>
<td>48%</td>
<td>0.037</td>
<td>.848</td>
</tr>
<tr>
<td></td>
<td>NNSstudents</td>
<td>18</td>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>85%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>50%</td>
<td>5.230</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>85%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A11 Coherence of ideas</td>
<td>NSstudent vs.</td>
<td>124</td>
<td>36%</td>
<td>0.059</td>
<td>.808</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>33%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>85%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs.</td>
<td>18</td>
<td>33%</td>
<td>10.306</td>
<td>.001**</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>36%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Significance ** = $p \leq .001$; Significance * = $p \leq .0166$
The results for *spelling and punctuation* show a similar trend. There is no significant difference between NS students and NNS students as shown in Table 3 above. However, there is a statistical difference between students (NS and NNS) and teachers as both groups of students seem to focus significantly more on spelling and punctuation than their teachers do.

Regarding attention given to the *thesis statement* during peer review, there was no significant difference between the student groups, \( p = .116 \). The difference between the NS students and the teachers is not significant at the corrected *alpha level* = .0166, \( p = .023 \), but is significant at *alpha* = .05. The difference between NNS students teachers is significant, \( p = .004 \). The trend indicated by the results is that teachers in general give more importance to the *thesis statement* than the students. Also, the data illustrates that NS students pay more attention to the writing of the thesis statements than their NNS counterparts.

In terms of *organization*, a significant difference was observed only between NS students and teachers (\( p = .011 \)). Interestingly, the NNS students seem to pay more attention to organization than NS speakers.

Regarding *examples and evidence*, a significant difference is observed between all groups: NS students vs. NNS, \( p = .017 \); NS students – teachers, \( p = .002 \); NNS students – teachers, \( p < .000 \). It can be inferred that teachers give more importance to *examples and evidence* than students.

The results for *content and its relevance* show only one significant difference which is between teachers and NS students with a *p-value* of .002. Teachers and NNS students do not differ significantly in their focus on *content and relevance of ideas*. 
For **coherence of ideas**, both NS and NNS students show significantly different attitudes from their instructors. In other words, teachers give higher importance to this aspect than NS and NNS students.

Despite the fact that not all pair-wise comparisons above yield significant differences between the student and teacher groups, the mean scores, expressed in percentages, show a clear trend that distinguishes students from teachers. This trend is illustrated in Figure 4 below. Specifically, both student groups seem to give more attention to language aspects like grammar range and accuracy and spelling and punctuation, whereas the teacher sample expresses a stronger interest in aspects related to the writing itself: *organization, evidence and examples, content, coherence of ideas*.

![Figure 4: Aspects with significant pair-wise comparisons, showing students’ interest in language aspects vs. teachers’ prioritization of writing aspects.](image)

A similar though less-pronounced trend is observed with the six remaining aspects, where no significant differences between the groups were found. Based on the descriptive statistics (See Figure 5), the student groups still seem to prioritize the language aspects of their peers’ writing.
This is clearly the trend for *sentence structure*, where the two student groups give higher priority to the aspect than the teachers. A similar but less straightforward pattern is observed regarding *vocabulary*, where the NS student group gives the highest attention, followed by the teachers’, and finally by the NNS group.

The writing aspects clearly show the consistently higher priority given by the teachers’ group in comparison with the students’ groups for all four writing aspects: *purpose, paragraph structure, citations and references*, and *MLA format*.

When all findings are put together, including those that show significant differences between the groups and those that show only descriptive differences, both student groups give higher priority to the language aspects of their peers’ writing, whereas the teachers consider the writing aspects more important. The only exception concerns *vocabulary*, where the NNS group has a lower percentage than the teachers’. Even though the difference is not significant, it is interesting and will be discussed in the last chapter.

*Figure 5*: Aspects which lack significant group comparisons, but still show students’ interest in language aspects vs. teachers’ prioritization of writing aspects.
This question elicited information on the potential problems of peer review. Specifically, students were given 9 options with the last one as “other”. Eliminating the last option, 8 Kruskal-Wallis tests were conducted, followed by post hoc multiple comparison tests. Table 20 and 21 summarizes the results of the descriptive statistics and Kruskal-Wallis tests.

Table 20: Descriptive Statistics

<table>
<thead>
<tr>
<th>What do you think are the problems of peer review?</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>95% Confidence Interval for Mean Lower Bound</th>
<th>95% Confidence Interval for Mean Upper Bound</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 Peer review takes too much time</td>
<td>NSstudent</td>
<td>124</td>
<td>.13</td>
<td>.337</td>
<td>.030</td>
<td>.07</td>
<td>.19</td>
<td>0</td>
<td>1</td>
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<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.17</td>
<td>.383</td>
<td>.090</td>
<td>-.02</td>
<td>.36</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.05</td>
<td>.224</td>
<td>.050</td>
<td>-.05</td>
<td>.15</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P2 I am not confident enough to give feedback to my peers</td>
<td>NSstudent</td>
<td>124</td>
<td>.18</td>
<td>.384</td>
<td>.034</td>
<td>.11</td>
<td>.25</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.28</td>
<td>.461</td>
<td>.109</td>
<td>.05</td>
<td>.51</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.60</td>
<td>.503</td>
<td>.112</td>
<td>.36</td>
<td>.84</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P3 My peers don’t value my feedback.</td>
<td>NSstudent</td>
<td>124</td>
<td>.10</td>
<td>.308</td>
<td>.028</td>
<td>.05</td>
<td>.16</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.17</td>
<td>.383</td>
<td>.090</td>
<td>-.02</td>
<td>.36</td>
<td>0</td>
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<td>.109</td>
<td>.42</td>
<td>.88</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P4 I tend to avoid writing any critical comments.</td>
<td>NSstudent</td>
<td>124</td>
<td>.17</td>
<td>.377</td>
<td>.034</td>
<td>.10</td>
<td>.24</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.06</td>
<td>.236</td>
<td>.056</td>
<td>-.06</td>
<td>.17</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.65</td>
<td>.489</td>
<td>.109</td>
<td>.42</td>
<td>.88</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P5 The groups are not chosen properly.</td>
<td>NSstudent</td>
<td>124</td>
<td>.06</td>
<td>.247</td>
<td>.022</td>
<td>.02</td>
<td>.11</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.00</td>
<td>.000</td>
<td>.000</td>
<td>.00</td>
<td>.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>P6 The furniture and the space of the class do not allow us to perform peer review sessions.</td>
<td>NSstudent</td>
<td>124</td>
<td>.01</td>
<td>.090</td>
<td>.008</td>
<td>-.01</td>
<td>.02</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.06</td>
<td>.236</td>
<td>.056</td>
<td>-.06</td>
<td>.17</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.25</td>
<td>.444</td>
<td>.099</td>
<td>.04</td>
<td>.46</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P7 I don’t value peer review because I do not receive any credit for it.</td>
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<td>124</td>
<td>.02</td>
<td>.126</td>
<td>.011</td>
<td>-.01</td>
<td>.04</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.06</td>
<td>.236</td>
<td>.056</td>
<td>-.06</td>
<td>.17</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.40</td>
<td>.503</td>
<td>.112</td>
<td>.16</td>
<td>.64</td>
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<td>1</td>
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<td>P8 No problems at all.</td>
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<td>.43</td>
<td>.497</td>
<td>.045</td>
<td>.34</td>
<td>.52</td>
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</tr>
<tr>
<td></td>
<td>NNstudent</td>
<td>18</td>
<td>.44</td>
<td>.511</td>
<td>.121</td>
<td>.19</td>
<td>.70</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>.05</td>
<td>.224</td>
<td>.050</td>
<td>-.05</td>
<td>.15</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P9 Other</td>
<td>NSstudent</td>
<td>124</td>
<td>.10</td>
<td>.308</td>
<td>.028</td>
<td>.05</td>
<td>.16</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NNstudent</td>
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<td>.11</td>
<td>.323</td>
<td>.076</td>
<td>-.05</td>
<td>.27</td>
<td>0</td>
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<td></td>
<td>Teachers</td>
<td>20</td>
<td>.20</td>
<td>.410</td>
<td>.092</td>
<td>.01</td>
<td>.39</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 21: Kruskal-Wallis Results for Between-group Comparisons

<table>
<thead>
<tr>
<th>What do you think are the problems of peer review?</th>
<th>Group</th>
<th>N</th>
<th>Mean Rank</th>
<th>Chi-square (df 2)</th>
<th>p (Asympt. Sig)</th>
<th>Effect size chi-square/N-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 Peer review takes too much time</td>
<td>NSstudent</td>
<td>124</td>
<td>81.95</td>
<td>1.335</td>
<td>.513</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>85.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>75.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2 I am not confident enough to give feedback to my peers</td>
<td>NSstudent</td>
<td>124</td>
<td>76.37</td>
<td>16.873</td>
<td>.000**</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>84.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>110.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3 My peers don’t value my feedback.</td>
<td>NSstudent</td>
<td>124</td>
<td>75.49</td>
<td>34.633</td>
<td>.000**</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>80.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>119.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4 I tend to avoid writing any critical comments.</td>
<td>NSstudent</td>
<td>124</td>
<td>77.72</td>
<td>26.406</td>
<td>.000**</td>
<td>.16</td>
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<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>68.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>116.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P5 The groups are not chosen properly.</td>
<td>NSstudent</td>
<td>124</td>
<td>82.73</td>
<td>2.563</td>
<td>.278</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>77.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>77.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P6 The furniture and the space of the class do not allow us to perform peer review sessions.</td>
<td>NSstudent</td>
<td>124</td>
<td>78.65</td>
<td>24.307</td>
<td>.000**</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>82.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>98.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P7 I don’t value peer review because I do not receive any credit for it.</td>
<td>NSstudent</td>
<td>124</td>
<td>77.31</td>
<td>39.899</td>
<td>.000**</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>80.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>108.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P8 No problems at all.</td>
<td>NSstudent</td>
<td>124</td>
<td>85.12</td>
<td>10.645</td>
<td>.005*</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>NNSstudent</td>
<td>18</td>
<td>86.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>54.55</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Significance ** = p ≤ .001; Significance * p < .05

Out of 8 Kruskal-Wallis tests, six yielded significantly different results. The first between groups difference is related to students’ confidence, Chi-square = 16.873, p = .000, with small effect size. Another difference is observed in relation to students’ belief that their feedback
is not valued by their peers, Chi-square = 34.633, \( p = .000 \), with small effect size. In regard to the
furniture and the space of the class, there was a significant difference with the following values:
Chi-square = 24.307, \( p = .000 \), with small effect size. For the item “I don’t value peer review
because I do not receive any credit for it”, a significant difference was observed at Chi-square =
39.899, \( p = .000 \), with small effect size. Finally, a significant difference was found in the last
item “No problems at all”, Chi-square = 10.645, \( p = .005 \), with small effect size.

The significant differences explained above do not show enough details if all groups are
significantly different or only a few of them. Therefore, the 8 Kruskal-Wallis tests above were
followed by pair-wise post hoc comparisons between: 1) NS student group and NNS student
group; 2) NS student group and teachers; and 3) NNS student group and teachers. The results are
summarized in Table 21.

The pair-wise comparisons show multiple significant differences. Regarding students’
confidence, a significant difference was observed between NS and teachers. Based on this data, it
can be inferred that NS students have more confidence in themselves than their teachers have in
them. The difference between NNS students and teachers was not significant at the adjusted
alpha level (.0166) but would be significant at the initial level of alpha = .05 (\( p = .049 \)). This
suggests a similar trend to the one between NS students and teachers, where the teachers’
perceptions do not match these of the students. The teachers believe that students lack
confidence in their ability to provide feedback, whereas both NS and NNS students project more
confidence in their responses. This fact explains why, no significant difference was found
between the students’ groups (NSOE and NNSOE).
Table 22: Post hoc Comparisons for Significant Kruskal-Wallis Tests

<table>
<thead>
<tr>
<th>Aspects with significant difference b/n groups</th>
<th>Pair-wise comparisons</th>
<th>N</th>
<th>%</th>
<th>Chi-square (df 1)</th>
<th>Sig. (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2 I am not confident enough to give feedback to my peers</td>
<td>NSstudents vs. NNSstudents</td>
<td>124</td>
<td>18%</td>
<td>1.021</td>
<td>.312</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs. Teachers</td>
<td>18</td>
<td>28%</td>
<td>3.874</td>
<td>.049*</td>
</tr>
<tr>
<td>P3 My peers don’t value my feedback.</td>
<td>NSstudents vs. NNSstudents</td>
<td>124</td>
<td>10%</td>
<td>.597</td>
<td>.440</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>65%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs. Teachers</td>
<td>18</td>
<td>17%</td>
<td>8.840</td>
<td>.003**</td>
</tr>
<tr>
<td>P4 I tend to avoid writing any critical comments.</td>
<td>NSstudents vs. NNSstudents</td>
<td>124</td>
<td>17%</td>
<td>1.544</td>
<td>.214</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>65%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs. Teachers</td>
<td>18</td>
<td>6%</td>
<td>14.008</td>
<td>.001**</td>
</tr>
<tr>
<td>P6 The furniture and the space of the class do not allow us to perform peer review sessions.</td>
<td>NSstudents vs. NNSstudents</td>
<td>124</td>
<td>1%</td>
<td>2.535</td>
<td>.111</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs. Teachers</td>
<td>18</td>
<td>6%</td>
<td>2.623</td>
<td>.105</td>
</tr>
<tr>
<td>P7 I don’t value peer review because I do not receive any credit for it.</td>
<td>NSstudents vs. NNSstudents</td>
<td>124</td>
<td>2%</td>
<td>1.173</td>
<td>.279</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NNSstudents vs. Teachers</td>
<td>18</td>
<td>6%</td>
<td>6.055</td>
<td>.014*</td>
</tr>
<tr>
<td>P8 No problem</td>
<td>NSstudent vs. NNSstudent</td>
<td>124</td>
<td>43%</td>
<td>.018</td>
<td>.892</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>20</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** = Significant at alpha =.01; * = Significant at alpha = .0166
The second aspect “My peers don’t value my feedback” yielded two significant results, both of which are between teachers and NSOE students ($p = .000$) and also between teachers and NNSOE students ($p = .049$). There was no significant difference between students. Students show a more positive view than their instructors that their classmates find their comments useful.

The third aspect is on avoiding writing any critical comments. The findings reveal a similar trend in which two significant differences were observed and they all were between teachers and students (NSOE, $p = .000$; NNSOE $p = .001$). Teachers believe that students tend to avoid writing critical comments, whereas students seldom agree with this assessment.

The results for The furniture and the space of the class do not allow us to perform peer review sessions show only one significant difference which is between NS students and teachers.

The aspect Students don’t value peer review because they do not receive any credit for it revealed two significant differences which are between students and teachers (NSOE, $p = .000$; NNSOE $p = .014$). It seems that NS and NNS students disagree with teachers that grades are the reason why students do not value peer review.

The findings for the last aspect No problem show two significant differences between teachers and students (NSOE, $p = .001$; NNSOE $p = .005$). Both NS and NNS students believe that there are no problems with peer review, whereas teachers believe otherwise.

Even though not all the pair-wise comparisons above showed significant differences between students and teachers, the percentages show the overall difference in the perceptions of students and instructors. Figure 6 below demonstrates this trend.
When participants were asked to report additional problems other than the ones mentioned on the survey, 15% of students and 7% of instructors reported a total of 15 potential problems of peer review. The problems were grouped into categories as illustrated in Tables 23 and 24 below.

Table 23: Additional Problems Reported by Students

<table>
<thead>
<tr>
<th>Problem</th>
<th>Illustration</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of knowledge</td>
<td>“Sometimes your peers may not know what they are talking about.”</td>
<td>15%</td>
</tr>
<tr>
<td>Students do not take it seriously</td>
<td>“Others may not take it as serious as you do.”</td>
<td>60%</td>
</tr>
<tr>
<td>Unhelpful for the receiver</td>
<td>“I receive little feedback, but I give great feedback.”</td>
<td>25%</td>
</tr>
</tbody>
</table>
Table 24: Additional Problems Reported by Instructors

<table>
<thead>
<tr>
<th>Problem</th>
<th>Instructors</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of comprehension</td>
<td>“Students don't always understand their peers' comments; as in, a lot of times they don't understand their teachers' comments due to comprehension issues, and they are not going to ask anyone for clarity, so they end up not doing what they were advised to do because of a lack of understanding, as well as allowing their personal lives to interfere with them actually producing quality work. Students have a &quot;just get it done&quot; mentality, which means they don't care what is turned in. With that attitude, it doesn't matter how much direction you provide, it's useless.”</td>
<td>25%</td>
</tr>
<tr>
<td>Lack of participation</td>
<td>“Often times, students aren't invested in improving their work or helping others—they are not engaged with the class.”</td>
<td>25%</td>
</tr>
<tr>
<td>Don’t wanna do it!</td>
<td>“There are certain students who simply don’t want to participate in peer review. Sometimes they can exert a real drag on the group around them.”</td>
<td>25%</td>
</tr>
<tr>
<td>Group formation</td>
<td>“Some students get much more out of it than others depending on what group or pair they are in.”</td>
<td>25%</td>
</tr>
</tbody>
</table>

Both instructors and students agreed that students lack the necessary knowledge to perform peer review. Providing this basis would necessitate extensive training from the instructors. Another problem reported is lack of interest. In other words, students tend not to take the peer review seriously. Some students (25%) tend to believe that the feedback they receive is not as valuable as the feedback they provided to their classmates. Another problem raised by some instructors (25%) has to do with the internal micro-climate of the groups. They believe that not all groups/pairs work at the same level of effectiveness and that this inequality affects the benefits of peer review.

To address the potential problems of peer review, a follow up question was given to both students and instructors. The following section discusses proposed solutions from the perspectives of students and instructors.
Eighty five percent of instructors proposed solutions whereas 15% answered with n/a.

The solutions were put into categories with illustrations from their responses as shown in table 24 below. The first and second solutions (training and grading) yielded the same percentage (29%). The other four solutions have the same percentage (12%).

Table 25: Instructors’ Proposed Solutions for Peer Review Potential Problems

<table>
<thead>
<tr>
<th>Solutions</th>
<th>Illustrations</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training and modeling</td>
<td>“Modeling appropriate critical feedback helps students get over their reluctance to be critical.”</td>
<td>29%</td>
</tr>
<tr>
<td>Grading</td>
<td>“I grade peer reviews and tell them I expect them to take at least a couple of their classmates' ideas into consideration.”</td>
<td>29%</td>
</tr>
<tr>
<td>Making peer review anonymous</td>
<td>“I have thought about printing off my students' papers and leaving their names off so it remains anonymous.”</td>
<td>12%</td>
</tr>
<tr>
<td>Using different formats of peer review</td>
<td>“I think this comes back to designing multiple scenarios for peer review, never doing the same thing twice, etc.”</td>
<td>12%</td>
</tr>
<tr>
<td>Encouragement and motivation</td>
<td>“I try to encourage my students by having them keep in mind that everyone is working toward the same goal of helping each other pass the assignment.”</td>
<td>12%</td>
</tr>
<tr>
<td>Instructors’ feedback on the peer review</td>
<td>“I walk around the class, check, and approve their comments to give them confidence.”</td>
<td>12%</td>
</tr>
</tbody>
</table>

For the students, only 38 out of 130 answers were deemed relevant and useful. Their proposed solutions are categorized into 6 themes as illustrated in table 26 below. The first solution, proposed by 18% of the students suggests that teachers should encourage students and help them have confidence in themselves. The second solution (16%) concerns group formation and how it is important for instructors to choose group members very carefully depending either on their proficiency level or their interests. Third, 13% of students believe that grading will help solve the problems of peer review and make it more effective. Their comments show that when instructors start grading peer reviews, only then students will take it seriously. Fourth, 8% of students think that unstructured peer review would be more effective than structured review.
because it would allow students the freedom to focus on what they think is important. Fifth, 5% of students do not value peer review and recommend instructors look for alternatives. Finally, to address the problem of time constraint, students should be allowed to do peer review at home instead of in class. This group believes that this would enable students to provide more useful and detailed feedback to their peers.

Table 26: Students’ Proposed Solutions for Peer Review Potential Problems

<table>
<thead>
<tr>
<th>Solutions</th>
<th>Illustrations</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boost students’ confidence</td>
<td>“just do it more and get my confidence up.”</td>
<td>18%</td>
</tr>
<tr>
<td>Effective group formation</td>
<td>“Pair people up effectively so they are actually get valuable opinions.”</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>“Build understanding with your peer.”</td>
<td></td>
</tr>
<tr>
<td>Grading</td>
<td>“A way to solve this would be to take grades for peer review so that many people will take it more seriously.”</td>
<td>13%</td>
</tr>
<tr>
<td>Use unstructured peer review</td>
<td>“give us the freedom to pick out what we think is wrong without any guidance or persuasion.”</td>
<td>8%</td>
</tr>
<tr>
<td>Don’t do peer review</td>
<td>“no peer review. find an alternative.”</td>
<td>5%</td>
</tr>
<tr>
<td>Make students do peer review</td>
<td>“To resolve the time issue, let peer reviewers take the work home in order to prepare a more detailed or concise review.”</td>
<td>3%</td>
</tr>
<tr>
<td>resolve the time issue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the proposed solutions mentioned above, students and instructors had only two solutions in common. First, 29% of students and 13% of instructors agreed on grading as a possible solution for peer review problems. Additionally, 12% of students and 18% of instructors believe that boosting students’ confidence and encouraging them would help solve the problems of peer review.

**Overall Usefulness of Peer Review in Improving Students’ Academic Writing**

To investigate students’ and instructors’ perception on how helpful peer review is, they were asked to rank its usefulness from very helpful to unhelpful. Combining the very helpful and
helpful categories, we find that the majority of NS students (75%), NNS students (88%), and teachers (60%) find peer review to be helpful for developing academic writing skills. For the somewhat helpful category, 22% of NS students, 12% of NNS students, and 40% of teachers think that peer review is to some extent useful for helping students improve their writing. None of the teachers and NNS students found it unhelpful. Only 3% of NS students believe that it is unhelpful. Table 27 below summarizes the results for this question.

Table 27: Students’ and Instructors’ Perception on the Usefulness of Peer Review

<table>
<thead>
<tr>
<th>How Helpful? /Participants</th>
<th>NS Students</th>
<th>NNS Students</th>
<th>Teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very helpful</td>
<td>63 (56%)</td>
<td>8 (47%)</td>
<td>2 (10%)</td>
<td>73 (49%)</td>
</tr>
<tr>
<td>Helpful</td>
<td>21 (19%)</td>
<td>7 (41%)</td>
<td>10 (50%)</td>
<td>38 (25%)</td>
</tr>
<tr>
<td>Somewhat helpful</td>
<td>25 (22%)</td>
<td>2 (12%)</td>
<td>8 (40%)</td>
<td>35 (23%)</td>
</tr>
<tr>
<td>Unhelpful</td>
<td>4 (3%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>4 (3%)</td>
</tr>
<tr>
<td>Total</td>
<td>113</td>
<td>17</td>
<td>20</td>
<td>150</td>
</tr>
</tbody>
</table>

Instructors’ Feedback on the Quality of Peer Reviews

Both groups of students and teachers were asked if instructors evaluate peer review and give feedback on its quality. Interestingly, 92 NS and NNS students (65%) reported that instructors provide feedback on the quality of peer review. Of the instructors, 50% reported that they evaluate peer review and provide feedback, whereas 50% do not. Table 28 below provides more information.

Table 28: Students’ and Instructors’ Responses to Whether or Not Teachers Provide Feedback on the Quality of Peer Review

<table>
<thead>
<tr>
<th>Do teachers provide feedback?</th>
<th>NS Students</th>
<th>NNS Students</th>
<th>Teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>78 (63%)</td>
<td>14 (78%)</td>
<td>10 (50%)</td>
<td>102 (63%)</td>
</tr>
<tr>
<td>No</td>
<td>46 (37%)</td>
<td>4 (22%)</td>
<td>10 (50%)</td>
<td>60 (37%)</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>18</td>
<td>20</td>
<td>162</td>
</tr>
</tbody>
</table>

To Use or Not Use Peer Review in Academic Writing Classes

78
Most of the teachers (91%), NS students (92%), and NNS students (76%) believe that peer review should be used either with all major assignments or at least with one or two of the major assignments. A small percentage of students (8% NS, 24% NNS) think that they would not use peer review if they had a chance to. None of the instructors believe that they would exclude using peer review if they had a chance to.

Table 29: If You Could Choose to Do or Not to Do Peer Reviews in Your Writing Class, Which Would You Choose?

<table>
<thead>
<tr>
<th>Which Would You Choose?</th>
<th>NS Students</th>
<th>NNS Students</th>
<th>Teachers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Never use peer reviews in my writing class</td>
<td>9 (8%)</td>
<td>4 (24%)</td>
<td>0 (0%)</td>
<td>13 (9%)</td>
</tr>
<tr>
<td>b) Use peer reviews only with one or two major assignments</td>
<td>32 (28%)</td>
<td>5 (29%)</td>
<td>7 (35%)</td>
<td>44 (29%)</td>
</tr>
<tr>
<td>c) Use peer reviews with all major assignments</td>
<td>72 (64%)</td>
<td>8 (47%)</td>
<td>13 (65%)</td>
<td>93 (62%)</td>
</tr>
<tr>
<td>Total</td>
<td>113</td>
<td>17</td>
<td>20</td>
<td>150</td>
</tr>
</tbody>
</table>

Summary of Findings

The quantitative and qualitative results were extrapolated from surveys, interviews, and observations. These research methodologies were used to thoroughly investigate the use of peer review through the eyes of students and teachers. Teachers had different definitions of peer review but they all agreed that it is a form of assessment which aims to assist students provide feedback to one another. Teachers use different strategies to train students on peer review. The strategies found based on this research were modeling, demonstration, providing written guidelines, reading and discussion, and structured peer review. The most commonly used strategy among teachers was “modeling.”

This research targeted three groups of participants: NS students, NNS students, and teachers. All three groups were compared to see if there were any similarities and/or differences in their use and perception of peer review. For the frequency of using peer review, the majority of
participants (75% of teachers and 74% of NS and NNS students) stated that they used peer review with all of their major assignments. From all kinds of peer review, all groups believe that face-to-face peer review during class is the most common and most effective format. Following this was paper based and then online peer review.

In terms of the writing aspects that teachers and students focus on, the results showed that instructors pay more attention to aspects related to writing itself such as organization, evidence and examples, content, and coherence of ideas. Students seemed to focus on language aspects more than their teachers do: grammar range and accuracy and spelling and punctuation.

Regarding the potential problems of peer review, students and teachers reported significantly different results on the following issues: lack of students’ confidence in giving feedback, students do not value feedback, students tend to avoid writing critical comments, problems with the furniture, peer review is not graded, no problems with peer review. The aspects that did not yield significant differences were time consuming and group formation. The solutions to solve these issues from the perspectives of teachers included the following: training and modeling, grading, making peer review anonymous, using different modes, encouragement and motivation, and instructors’ feedback. The solutions based on students’ perspectives included the following: boosting students’ confidence, effective group formation, grading, using unstructured peer review, not using peer review, and using it as a homework assignment instead of in class.

Whether teachers provide feedback on student’s peer review, 65% of students mentioned that teachers give feedback on their evaluations compared to only 50% of teachers who reported that they give feedback to their students.
For overall usefulness, most of the participants (75% NS students, 88% NNS students, and 60% teachers) find peer review helpful and very helpful for developing their writing skills. Also, most of them, if they were given a chance to use or not use peer review, would choose to do it.
Chapter 5

Discussion

Roles and Strategies of Peer Review

The first set of research questions asked, “What is the role of peer review in academic writing classes? What strategies do instructors use to conduct peer review, and which ones were deemed effective?” These questions were answered through interviews, observations, and surveys. The first question aimed to elicit information about the definition and the role of peer review in academic writing classes. As summarized in table 4 above, all teachers believe that peer review is a type of evaluation where students critique each other’s work. Based on their definitions, peer review can be defined as a process in which students read each other’s work, offer suggestions, and provide comments as readers. The participants’ definitions agree with Liu and Hansen (2002) and Storch (2017) who describe peer review as an activity where two students critique each other’s drafts and provide feedback.

The current study shows that peer review is perceived as a useful activity in academic writing classes. Teachers think that peer review facilitates conversations about writing and it helps them understand that writing is an act of communication and not merely an assignment. This means that when students write, they have to pay attention to several factors such as audience. As Nicole pointed out that peer review “allows them to play that bifurcated game that is writing.” So, when in a peer review session, students are acting as the ideal audience and they find it an opportunity to communicate their thoughts to the writer. Past research (e.g., Lundstrom & Baker, 2009; Rouhi & Azizian, 2013) has found that peer review is helpful not only for the giver, but also for the receiver.
The second question on the strategies used by instructors was answered based on 4 observations and 4 interviews. The results show that instructors use 3 different strategies to facilitate peer review sessions: reading out loud, structured peer review, and mixed approach. The two experienced teachers, Nicole and Elizabeth, use the reading-out-loud strategy. They reported that they have used several strategies and they find this strategy the most effective of all. Their reasoning is that it helps students work on the intended meaning. When they hear someone else read their work for them, they easily spot their mistakes and the ambiguity of their writing. The second strategy (structured peer review) used by Rosa focuses mainly on filling out a worksheet. The reason behind using this strategy is that it provides guidance to students throughout the peer review process. Some may argue that this method limits students to specific aspects and negatively impacts their creative thinking. For the third strategy, Anjal used both the reading-out-loud strategy and the structured peer review. This strategy may combine the strengths and weaknesses of the previous two techniques, but the disadvantage is that it is time-consuming. Teachers may not have the time to spend two class periods on peer review. From these three strategies, the reading out loud seems to be the most effective technique for conducting peer review sessions for several reasons. First, it has been practiced by experienced teachers who developed it after noting their dissatisfaction with other methods. Second, it focuses on different language skills: reading, writing, listening, and speaking. When one student reads, the other listens and write notes. When they are done reading, peers discuss their feedback and envision the ways they will apply the feedback they received to develop their drafts. ESL students would benefit more from such discussion because not only it will help them improve their writing, but it will also help them practice their speaking and communication skills.
Types and Formats of Peer Review

The second set of research questions ask “Which types of peer review are commonly used: Face-to-face; synchronous, asynchronous? Which formats are perceived as the most effective?” The data suggest that peer review is frequently used in academic writing classes with 75% of instructors and 74% of students believe that they use it for *all of the major assignments*. These findings agree with past literature that peer review has become common in composition and writing classes (Anson & Anson, 2017; Brammer & Rees, 2007; Hu, 2005; Yu and Hu, 2017).

Since peer review can be conducted in different forms, the study examined which types of peer review are most commonly used and which ones are effective. Both students and teachers believe that *face-to-face peer review during class time* is the most effective and most commonly used type of peer review. This means that traditional peer review is more effective than online peer review. Researchers (e.g., He, 2011; Huang, 2016; Lin, & Yang, 2011; Vorobel & Kim, 2017) have been investigating this issue and have found that online peer review is more effective. Huang (2016) found that online peer review is helpful for EFL learners because it makes learning interesting, however, teachers should monitor and guide students throughout the whole process. Similar studies such as He (2011) and Lin and Yang (2011) found that online tools like wikis have the potentials to be effectively used for peer review sessions. A comparison study by Vorobel and Kim (2017) investigated the use of peer review from the perspectives of 4 high school students in the United States. The study found that students prefer online peer review over other forms. The findings of the current study, however, do not agree with these results. This study shows that face-to-face peer review is more common and more effective than online peer review. There are a number of reasons why this study yielded different results. First, it
could be attributed to the fact that the targeted audience did not have sufficient experience conducting online peer review. The statistics on table 8 show that only 4.65% of students believe their teachers have used online peer review during class time or as a homework assignment. When students do not have enough experience in doing peer review, they tend to view it as a useless activity (Kaufman & Schunn, 2011; Roskams, 1999). The second reason could be the context and the special demographic of participants, because none of the studies discussed above were conducted on first-year college students. Third, students prefer immediate feedback in person to feedback online (Ho, 2015). Other reasons could be credited to the fact that some forms of technology have become distracting for students. By doing peer review face-to-face, students must pay full attention to the task at hand and cannot get distracted.

Based on the findings of the current study and previous literature, it can be observed that peer review can be implemented online and in class. Liu and Sadler (2003) suggests that both modes can be used to improve students’ writing: face-to-face peer review is better for communication whereas online peer review is better for producing more comments.

**Aspects of the Writing Skill**

The third set of research questions asked, “Which aspects of the writing skill do students (native and non-native speakers) and teachers focus on during the peer review process? Do they put emphasis on similar aspects or do they focus on different aspects of writing?” One of the objectives of the current study, which has not been thoroughly addressed in previous research, is to examine the aspects of writing that participants focus on when doing peer review. Moreover, it compared the results of three groups: native speakers, non-native speakers, and teachers. An interesting trend that appeared from the results shows that teachers and students focus on different writing aspects. The quantitative data indicates that when native and non-native
students do peer review, they focus more on the language aspects like grammar, spelling and punctuation. Teachers showed that they are primarily interested in the writing aspects such as organization, evidence, coherence, etc. In the past, studies focused either on studying the benefits of peer review or examined one or two aspects of writing. Researchers like Berg (1999) and Rouhi and Azizian (2013) tested students’ performance on specific aspects. Berg (1999) examined the impact of peer review on the semantic aspect of writing. The study concluded that students made large meaning changes in their revised drafts. Rouhi and Azizian (2013) focused only on two aspects related to grammar (English articles and simple past tense). They found that after the peer review workshop, students showed improvements in these aspects. Another study by Crossman and Kite (2012) found that students find peer review helpful for the following aspects: audience focus, support, organization, and writing conventions.

Potential Problems of Peer Review and Possible Solutions

The fourth set of research questions asked “What are the potential problems of peer review? How can they be solved? What can be done to make peer review more beneficial in academic writing classes? How do they assess the quality of peer feedback?” Little research was found on the potential problems of peer review in academic writing classes. Storch (2005) found that students pay more attention to the product, rather than the process. Rollinson (2005) listed several potential problems of peer review such as lack of student confidence, the amount of time this exercise took, students’ different cultural backgrounds, and the lack of interference from the instructors. The current study introduced the participants to 9 different potential problems of peer review and asked them to list more problems (if any) other than the 9 listed in the survey. As illustrated in figure 6 above, there are significant differences in the perceptions of teachers and students. Sixty percent of the teachers reported that one of the potential problems is students’
lack of confidence. Interestingly, only a relatively small number of students (18% NS and 28% NNS) found this as a problem. Moreover, 60% of the teachers believe that students do not value the feedback they receive and avoid writing critical comments on their peers’ work. The results from the students’ perspectives are different from their instructors’, where only 10 to 17% of NS students and 6 to 17% of NNS students agree with these results. Comparing the perceptions of students and teachers is something that was not found in the previous literature. As can be seen from the discussion here, there is a big gap in the way both groups perceive certain activities in the classroom. Some of the problems reported by the majority of teachers are not viewed as potential problems by students. This sheds light on the importance on communication between both groups. If teachers understand their students’ perspectives, they will be able to accommodate them which will result in more effective peer review.

Past studies that discussed the problems of peer review did not offer solutions from the perspectives of both teachers and students. This study attempts to fill this gap in the literature. The solutions from the perspectives of teachers include training and modeling, grading, making peer review anonymous, using different formats of peer review, encouragement and motivation, instructors’ feedback on the peer review. Modeling is the most frequently used and most effective technique used by instructors. Elizabeth does modeling through what she describes as “fish bowl.” She sits with another student and pretends to be a student. This gives her the chance to model what peer review should look like so that students understand her expectations. During the process of modeling, the rest of the students watch them and learn from the way they do it. She believes that this technique has been very effective in her classes. Moreover, Anjal perceives modeling as the most effective part of the whole process.
Students proposed the following solutions organized from most effective to least effective: Boost students’ confidence, effective group formation, grading, use unstructured peer review, don’t do peer review, and do peer review as a homework assignment. The latter strategy is believed to alleviate time constraints. The students (18%) believe that the most effective solution is to help students be more confident in doing peer review. There is an interesting correlation here with the previous question regarding the potential problems of peer review. The results of the previous question show that students have more confidence in themselves than their teachers having confidence in them. Here, the students suggest that boosting their confidence will make peer review more helpful for them. It can be inferred from this that teachers should implement some activities or training sessions that will help students gain knowledge and confidence in doing peer review more effectively.

Of these solutions, training was greatly emphasized by previous research. Berg (1999) found that training helped students make great changes in their revised drafts. A similar study by Min (2005) concluded that training makes students better reviewers. Effective group formation was supported by Rollinson (2005). He elaborates on this by stating that teachers have to design specific procedures for the size of the group, the number of drafts, and whether or not the feedback will be assessed by the instructor.

**Perceptions of Students and Teachers Towards Peer Review**

The fifth set of research questions asked What is the attitude of native and non-native speaker students towards peer review? What is the perception of their instructors? How are their views similar or different? Several studies in the past investigated the perceptions of students on peer review practices. Most of these studies (e.g., Hedgcock & Lefkowitz, 1992; Hislop &
Stracke, 2017; Orita, 2016; Rouhi & Azizian, 2013; Wang, 2014; Yastıbaş & Yastıbaş, 2015;
Yoshikawa & Kyoko, 2016) found peer review a useful activity for developing students’ writing.
Other studies (e.g., Paulus, 1999; Ruegg, 2015; Trengove, 2017; Tsui & Ng, 2000; Yang,
Badger, & Yu, 2006) compared peer feedback to instructors’ feedback. These studies concluded
that peer feedback is as effective and helpful as teachers’ feedback. The current study added a
new dimension by comparing the perceptions of NS students, NNS students, and instructors. The
results show that the majority of students (75% NS students and 88% NNS students) believe that
peer review is helpful for developing their academic writing skills. On the other hand, 60% of
teachers perceive peer review as a helpful activity for improving student writing. These findings
support the previous research that instructors can utilize peer review to help students revise and
develop their writing drafts.
Chapter 6

Conclusion

Summary of Findings

This study aimed to examine aspects of peer review that have not been thoroughly discussed by previous research. Five research questions guided the data collection of this study. The first question explored the role of peer review in academic writing classes from the perspective of teachers. The second question elicited information from students (L1 and L2) and teachers on the common and effective types of peer review. The third question focused on specific aspects of writing that teachers and students pay attention to during the peer review process. The fourth question addressed the potential problems of peer review to generate possible solutions. The fifth question searched for the different strategies used by teachers when doing peer review and the ones that were deemed effective.

To answer these questions, the researcher used three different research methodologies. First, a survey was distributed to 142 students (123 L1 and 18 L2). Another survey was sent to 20 instructors. Second, 4 instructors were selected for observations and interviews. The study followed the Convergent Approach which means that the qualitative and quantitative data were collected concurrently, analyzed separately, and the results were merged during interpretation. The quantitative data was analyzed using SPSS. Due to the unequal representation of groups, the non-parametric test Kruskal-Wallis test for k-independent samples was deemed appropriate. For the qualitative data, content analysis was used.

The findings of the first question show that peer review is an important activity in academic writing classes and is commonly used as a tool for evaluating students’ work. The results also show that teachers use different strategies to implement peer review such as reading
out loud, structured peer review, and mixed approach. Through interviews and observations, the reading-out-loud strategy was found to be the most effective method as it allows students to practice multiple language skills like reading, speaking, listening, and writing.

For the second question, the data shows that face-to-face peer review during class time is the most commonly used type of peer review. Online peer review was not commonly used among the participants and was thus not considered very effective. The third question yielded interesting results about the differences between teachers and students in regard to their focus on the various language aspects. Teachers tend to focus more on the writing aspects like organization, coherence, and evidence whereas students pay more attention to language aspects such as punctuation and grammar.

The fourth question is related to the potential problems of peer review and the possible solutions. The participants reported several problems that affect the outcomes of peer review. The students and teachers were given the same list of problems to ascertain whether their perceptions was similar or different. Interestingly, their perception was different in 6 problems out of 8 total aspects. Table 21 and 22 provides detailed information about the problems and the significant differences between students and teachers. When asked about possible solutions for these problems, the groups came up with two different lists (see table 25 and 26). The solutions that were suggested by the highest percentage of teachers were Training and Modeling and Grading. The solution proposed by the highest percentage of students was Boost Students’ Confidence.

The final question was on the general attitudes of instructors and students on the use of peer review. The findings show that both groups have positive perceptions of peer review and
they believe that it is helpful for students to develop multiple language skills as well as encourage collaboration and autonomous learning.

**Pedagogical Implications**

The results of the current study have implications for administrators, instructors, NS students, and NNS students. Overall, peer review appears to be a common activity in academic writing classes and the majority of participants in the three groups perceive it as a useful activity. Specifically, students believe that it is helpful not only for the reviewees (receivers), but also for the reviewers (givers). Therefore, it is important for teachers to benefit from the available research on peer review to make it more effective and beneficial for students. The current study suggests ways to help with this.

This study, along with previous research (e.g., Berg, 1999; Min, 2005; Min, 2006), emphasize the importance of training before the peer review sessions. Teachers reported their use of 5 different strategies to train students on how students should conduct a peer review session. The most effective strategy, according to 33% of instructors, is modeling. One way to train through modeling is to have the instructor pair up with a student while the remainder of the class watches and learns. The teacher can ask for one or two volunteers from the class for this activity. The process can be performed twice to show them what successful and unsuccessful peer review look like. Compared to other strategies, this strategy scored the highest with 37% of the instructors who participated in this study describing it as very useful. One of the instructors summarizes the process: “I mimic the practice for them. We practice by looking at an example essay and doing what I am asking the students to do when they peer review.”

**Performing Peer Review.** The study revealed three different strategies to conduct peer review sessions: reading out loud, structured peer review, and mixed approach. Each of these
methods have its advantages and disadvantages, but the reading out loud has been used by experienced teachers and is described as effective. The teachers, who are in favor of this approach, report several benefits such as clarifying the intended meaning, paying attention to audience, and boosting students’ confidence and making them feel like real writers.

**Modes of Conducting Peer Review.** Nowadays, students can do peer review in different formats. Several researchers have investigated how different modes can be used for effective peer review. Some of them (e.g., Demirbilek, 2015; He, 2011; Huang, 2016; Lin & Yang, 2011; Vorobel and Kim, 2017) found that online tools provide a better environment for peer review, while some (e.g., Kessler & Bikowski, 2010; Ho, 2015) found that the traditional setting is less distracting and thus more effective than an online setting. This study found that face-to-face peer review is more common and more effective than any other mode. However, the results show that the majority of students (95.3%) have no experience in doing peer review online, which makes their judgment less credible. This study supports the findings of Liu and Sadler (2003) that teachers can employ a variety of modes depending on the objective and the context of their class.

**Limitations**

This study has limitations that should be taken into consideration when interpreting the results of the current study and/or when designing future studies. First, the study employed unequal number of participants from all groups, which caused the researcher to resort to using Kruskal-Wallis test for k-independent samples. Another limitation is the small sample of participants from instructors. Employing more instructors could have enriched the findings of the study. Additionally, the participants did not have enough experience using peer review online, rendering their perception on this specific issue potentially inaccurate. Ideally, students should
have been introduced to different modes of peer review prior to their being asked which modes they value more. This can be done as a separate research project.

Many researchers emphasized the importance of training students on how to do peer review prior to the exercise. One limitation of this study is that the participants were not trained as part of this study, although some groups had been trained by their teachers. If training was provided before implementing the study, perceptions may have differed. Moreover, the study was conducted on first-year students and instructors only. If the study is implemented on a different demographic, the results may vary.

**Suggestions for Future Research**

Researchers have been investigating the use of peer review for several decades. This study attempted to cover aspects that were either underrepresented or not examined thoroughly by previous research. Hopefully, the findings reported here will be helpful for teachers, students, and administrators who value peer review as a pedagogical tool to teach academic writing. Nonetheless, areas remain that need to be explored by future research. First, researchers may examine groups with equal representations of instructors and students. If they manage to employ an equal number of participants, they may be able to use t-test for independent samples. In addition, since there is insufficient research on the perceptions of teachers, future studies may thoroughly examine teachers exclusively to ascertain how they use peer review.

In an age of rapid technological advancements, research on how different modes can facilitate the process of peer review is highly recommended. There are many online platforms that can be used for peer review and there is therefore a need for future research to focus on doing experimental studies on the effectiveness of these platforms if used for peer review.
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Appendices

Appendix A: Students' Survey

Dear Student,
First, I would like to thank you for taking the time to complete this survey. Your participation is a valuable part of my research. I am Rashad Ahmed, a graduate student at the University of Memphis, Department of English, being guided in this research by Professor Emily Thrush, Department of English at the University of Memphis. You are being invited to participate in this research study titled Teachers’ Practices and First-year Students’ Perspectives on Peer Review in Academic Writing Classes. Your volunteer participation in this research study will enable you to be among your classmates who will help the researcher to successfully complete his research. Your responses are completely anonymous, so that they cannot be linked to your name. However, for the validity of my study, it is very important that you provide complete and truthful information. If you have any concerns or questions regarding this research study, please feel free to contact me via raahmed@memphis.edu. Thank you again for your help!

I agree to participate in this survey

1 Name (optional)
________________________________________________________________

2 How old are you?
___________________________

3 Gender
Male
Female
Other

4 Your first language is....
English
Other

5 How often does your teacher use peer reviews in your academic writing class?
a) With all major assignments
b) With more than half of the major writing assignments
c) With less than half of the major writing assignments
d) Never

6 What type(s) of peer review does your teacher use in your academic writing class? (Select all that apply)
a) Face-to-face peer review during class time
b) Paper-based written peer review during class time
c) Online peer review during class time
d) Online peer review assigned as homework
e) He doesn't use any peer review
7 Which format do you find the most effective?
   a) Face-to-face peer review during class time
   b) Paper-based written peer review during class time
   c) Online peer review during class time
   d) Online peer review assigned as homework
   e) I don't use any peer review
   f) Other __________________________________________________

7.a Explain why ____________________________________________________

7.b Explain why ____________________________________________________

7.c Explain why ____________________________________________________

7.d Explain why ____________________________________________________

7.e Explain why ____________________________________________________

7.f Explain why ____________________________________________________

8 Does your teacher provide you with specific guidelines and questions that you need to follow during the peer review?
   Yes
   No

9 Which would you prefer?
   To follow a specific questionnaire when doing peer review
   To be able to express what you think without following a questionnaire

9.a Explain why ____________________________________________________

9.b Explain why ____________________________________________________

10 Which of the following aspects of writing do you focus on when doing peer reviews? Select all that apply.
   Grammar range and accuracy
   Sentence Structure
   Vocabulary range and appropriateness
11 Does your teacher provide feedback on the quality of your reviews?
Yes
No

11.a If yes, describe how your teacher informs you about the quality of your reviews?

12 Based on your experience, how helpful is peer review for improving your academic writing?
Very helpful
Helpful
Somewhat helpful
Unhelpful
Very unhelpful
Have never received peer review

13 How comfortable are you peer reviewing your classmate's papers?
Very comfortable
Mostly comfortable
Somewhat comfortable
Mostly uncomfortable
Not comfortable at all

14 How confident are you in reviewing your classmates’ papers?
   a) I am confident that I always provide correct and useful feedback.
   b) I think that my feedback is mostly correct and useful.
   c) I sometimes have doubts whether I am providing good feedback.
   d) I often doubt whether my feedback is correct or not.
   e) I do not know whether my feedback is correct or not.

14.a Explain your response above

14.b Explain your response above
14.c Explain your response above

14.d Explain your response above

14.e Explain your response above

15 How **comfortable** are you having your paper reviewed by other students?
a) Very comfortable  
b) Mostly comfortable  
c) Somewhat comfortable  
d) Mostly uncomfortable  
e) Not comfortable at all

15.a Explain why

15.b Explain why

15.c Explain why

15.d Explain why

15.e Explain why

16 If you could choose to do or not to do peer reviews in your writing class, which would you choose?  
a) **never** use peer reviews in my writing class  
b) use peer reviews **only with one or two** major assignments  
c) use peer reviews **with all major** assignments

16.a Explain why

16.b Explain why

16.c Explain why
17 What do you think are the problems of peer review? (Check all that apply)

a) Peer review takes too much time
b) I am not confident enough to give feedback to my peers
c) My peers don’t value my feedback.
d) I tend to avoid writing any critical comments.
e) I am restricted to the worksheet giving by the instructor.
f) The groups are not chosen properly.
g) The furniture and the space of the class do not allow us to perform peer review sessions.
h) I don’t value peer review because I do not receive any credit for it.
i) No problems at all.
j) Other (list all other problems not mentioned above)

18 If you listed any problems above, what solutions do you propose? (Write N/A if you did not select any).

________________________________________________________________

19 Which of the following formats of peer review would you like your instructor to use?
a) Oral discussions in pairs or small groups during class
b) Paper-based written reviews during class
c) Online written reviews during class
d) Online written reviews done at home
e) Other 

19.a Explain why
________________________________________________________________

19.b Explain why
________________________________________________________________

19.c Explain why
________________________________________________________________

19.d Explain why
________________________________________________________________

19.e Explain why
________________________________________________________________

20 Which online forms of peer review would you like your instructor to use?
a) Structured questionnaires
b) Informal blogs
c) Other 

21 Who do you think benefits more from peer reviews?
a) The person providing the review
b) The person receiving the review
21a Explain why

21b Explain why

22 Finish the following statement.
   In order to make peer reviews an effective tool for teaching academic writing skills, it is important to .........................
Appendix B: Instructors' Survey

Dear Instructor,

First, I would like to thank you for taking the time to complete this survey. Your participation is a valuable part of my research. I am Rashad Ahmed, a graduate student at the University of Memphis, Department of English, being guided in this research by Professor Emily Thrush, Department of English at the University of Memphis. You are being invited to participate in this research study titled Teachers’ Practices and First-year Students’ Perspectives on Peer Review in Academic Writing Classes. Your volunteer participation in this research study will enable you to be among other instructors in the department of English who will help the researcher to successfully complete his research. Your responses are completely anonymous, so that they cannot be linked to your name. However, for the validity of my study, it is very important that you provide complete and truthful information. If you have any concerns or questions regarding this research study, please feel free to contact me via raahmed@memphis.edu. Thank you again for your help!

I agree to participate in this survey.

1. Name (optional)
   ______________________________________________________________________

2. How old are you?
   ______________________________________________________________________

3. Gender
   Male
   Female
   Other ___________________________________________________________________

4. Your first language is....
   English
   Other ___________________________________________________________________

5. Which of the following describe your purpose of incorporating peer reviews in your academic writing class? Choose all that apply.
   a) To provide feedback to the student writer
   b) To raise the reviewing student’s awareness of important aspects of writing
   c) To assess student’s ability to provide feedback
   d) Other ___________________________________________________________________

6. How often do you use peer review in your academic writing classes?
   a) With all major assignments
   b) With more than half of the major writing assignments
   c) With less than half of the major writing assignments
   d) Never

7. What type(s) of peer review do you use in your academic writing classes? (Select all that apply)
a) **Face-to-face** peer review during class time  
b) **Paper-based** written peer review during class time  
c) **Online** peer review during **class** time  
d) **Online** peer review assigned as **homework**  
e) I don't use any peer review  
f) Other ________________________________________

8. Which **format** do you find the most effective?  
a) **Face-to-face** peer review during **class** time  
b) **Paper-based** written peer review during **class** time  
c) **Online** peer review during **class** time  
d) **Online** peer review assigned as **homework**  
e) I don't use any peer review  
f) Other ________________________________________

8.a Explain why  
________________________________________________________

8.b Explain why  
________________________________________________________

8.c Explain why  
________________________________________________________

8.d Explain why  
________________________________________________________

8.e Explain why  
________________________________________________________

8.f Explain why  
________________________________________________________

9. Do you teach your students how to do peer reviews?  
Yes  
No  

9.a If yes, explain what you do, giving specific examples.  
________________________________________________________

9.b If no, explain why  
________________________________________________________

10. When you ask students to do peer reviews, do you provide them with **specific guidelines**?  
Yes  
No

113
10.a If yes, explain what kind of guidelines you provide? In what form? Are these guidelines based on the writing rubric that you use to assess students’ writing?

10.b If no, explain why you prefer unstructured peer reviews.

11. Which of the following aspects of writing do you direct your students to focus on when doing peer reviews? Select all that apply or none if you use unstructured forms of peer review.
- Grammar range and accuracy
- Sentence Structure
- Vocabulary range and appropriateness
- Spelling and Punctuation
- Thesis Statement
- Purpose
- Overall Organization
- Paragraph structure and organization
- Evidence/Examples
- Overall Content and its relevance to the task/prompt
- Coherence of ideas
- Citations and references
- MLA Format
- Other (list all other aspects not mentioned above)

12. Do you examine the peer review feedback before submitting it to the recipient students?
- Yes
- No

12.a Explain why

12.b Explain why

13 Do you provide feedback on the quality of the peer review to the reviewers?
- Yes
- No

13.a Explain why

13.b Explain why
14. Based on your experience, how helpful is peer review for improving students’ academic writing?
Very helpful
Helpful
Somewhat helpful
Unhelpful
Very unhelpful
Have never used peer review

15. If you could choose to do or not to do peer reviews in your writing class, which would you choose?
   a) never use peer reviews in my writing class
   b) use peer reviews only with one or two major assignments
   c) use peer reviews with all major assignments

15.a Explain why
________________________________________________________________

15.b Explain why
________________________________________________________________

15.c Explain why
________________________________________________________________

16. Some of the problems you encounter when you use peer review are (check all that apply)
   a) Peer review takes too much time
   b) Students lack confidence in giving feedback
   c) Students don’t value their classmates’ feedback.
   d) Students tend to avoid writing any critical comments.
   e) You find it difficult to interfere and provide comments during the process of peer review.
   f) Institutional constraints
   g) It is hard to organize the students into groups.
   h) The furniture and the space of the class do not allow you to conduct peer review sessions.
   i) Students don’t value it because they are not graded on it.
   j) No problems at all/prompt.
   Other (list all other problems not mentioned above)
________________________________________________________________

17. If you listed any problems above, what solutions do you propose? (Write N/A if you didn't select any).
________________________________________________________________

18. Finish the following sentence.
   In order to make peer reviews an effective tool for teaching academic writing skills, it is important to .........................
Appendix C: Classroom Observation Sheet

**Background information**
Instructor: __________________ Course: ____________
Time/Date: _________________ Number of students: ______

**Preparation:**
How does the instructor prepare students for the peer review workshop?
____________________________________________________________________________________
Were students trained to do peer review?
____________________________________________________________________________________
How are students divided into groups?
____________________________________________________________________________________
Does the instructor provide a peer review worksheet? Is the peer review session structured or unstructured?
____________________________________________________________________________________
Did you observe any problems from the part of students, teachers, and/or the classroom setting?
____________________________________________________________________________________

**During peer review:**
How many students in each group?
____________________________________________________________________________________
How do students get started?
____________________________________________________________________________________
How long does it take to review each paper?
____________________________________________________________________________________
Is the peer review anonymous?
____________________________________________________________________________________
Do students discuss their feedback?
____________________________________________________________________________________
What is the role of the instructor?
____________________________________________________________________________________

**Evaluation:**
How do students receive feedback from their classmates?
____________________________________________________________________________________
Does the instructor evaluate the quality of peer review?
____________________________________________________________________________________
Do you think the students are interested in the lesson? Explain.
____________________________________________________________________________________
Appendix D: Post Observation Survey

Based on your experience, answer the following questions:
How helpful is peer review for improving your academic writing skills?
What would you consider as the strength of this activity?
What would you consider as the weakness or problem of this activity?
What should be done to make peer review more helpful?
Appendix E: Interview Questions

What is your educational background

How long have you been teaching? How long have you been using peer review?

What is a peer review session?

How well prepared are you facilitating peer review sessions? What background do you have?

Why do you choose to use peer review sessions in your writing classes? Why do you believe they are beneficial for your students’ writing?

Do you train your students on peer review? If so, how?

Do you model peer review for them?

Was the modelling training effective?

What else do you consider in preparation of peer review sessions and in training?

Does the level of students’ proficiency matter for peer review sessions? Why? How?

What can influence your decision to apply peer review sessions in your class?

How many L2 learners in yours class? Do you do anything different with them?

How do you deal with ESL learners?

What problems do you encounter? (Logistical constraints, student resistance, lack of expertise on the part of the students, issues in evaluating the quality of the peer review).

How do you solve these problems?

Have you changed the way you do peer review? If so, are the new methods more effective?

Do you give feedback on their reviews?

What should I have asked you that I didn't think to ask?
Appendix F: Consent to Participate in a Research Study

Dear Participant,
You are being invited to take part in a research study about “Teachers’ Practices and First-year Students’ Perspectives on Peer Review in Academic Writing Classes.” Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or the study advisor to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. Your volunteer participation in this research study will enable you to be among the participants who will help the researcher to successfully complete his research on the above-cited topic.

WHO IS DOING THE STUDY?
The person in charge of this study is Rashad Ahmed of University of Memphis Department of English. He is being guided in this research by Dr. Emily Thrush. There may be other people on the research team assisting at different times during the study.

WHAT IS THE PURPOSE OF THIS STUDY?
By doing this study, we hope to learn how First-year academic writing instructors and students perceive the effectiveness of peer review in developing students’ academic writing skills.

WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST?
The research procedures will be conducted as an online survey, observations in the classrooms, and interviews in the instructors’ offices, Faculty lounge of the English Department, or the library. The researcher will coordinate the places with the participants according to their convenience. You will take the online survey only once. If you are an instructor, the researcher might ask your permission to observe your peer review workshops, and then an interview for further investigation of your use of peer review. The total amount of time you will be asked to volunteer for the survey would be between 15 to 20 minutes, the observation time will depend on your class period, and the interview will be between 30 to 60 minutes. The data collection will be over six to nine months.

WHAT WILL YOU BE ASKED TO DO?
You will be asked to fill out an online survey/questionnaire on your perception of peer review. For instructors, after you fill out the survey, the research might ask your permission to observe peer review sessions in your classes, and might interview you to ask for more information.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?
To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life.

WILL YOU BENEFIT FROM TAKING PART IN THIS STUDY?
This study will offer an opportunity for you as a participant to express your perceptions that will help in devising with teaching English methods that are being used in teaching writing in the English Department, the University of Memphis. In addition, you will have first-hand experience
if you conduct research in future. Above all, this study will serve for the betterment of proposing the most effective strategies to use in peer sessions in academic writing classes. Your perceptions will benefit academic writing teachers to understand what they need to do to make peer review more effective and beneficial for students.

DO YOU HAVE TO TAKE PART IN THE STUDY?
If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you choose not to volunteer. You can stop at any time during the study and still keep the benefits and rights you had before volunteering. As a student, if you decide not to take part in this study, your choice will have no effect on your academic status or grade in the class.

WILL YOU RECEIVE ANY REWARDS FOR TAKING PART IN THIS STUDY?
You will not receive any rewards or payment for taking part in the study.

WHO WILL SEE THE INFORMATION THAT YOU GIVE?
We will make every effort to keep private all research records that identify you to the extent allowed by law.
Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be personally identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.
We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is.

CAN YOUR TAKING PART IN THE STUDY END EARLY?
If you decide to take part in the study you still have the right to decide at any time that you no longer want to continue. You will not be treated differently if you decide to stop taking part in the study.
The individuals conducting the study may need to withdraw you from the study. This may occur if you are not able to follow the directions they give you, if they find that your being in the study is more risk than benefit to you, or if the agency funding the study decides to stop the study early for a variety of scientific reasons.

WHAT IF YOU HAVE QUESTIONS, SUGGESTIONS, CONCERNS, OR COMPLAINTS?
Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions, suggestions, concerns, or complaints about the study, you can contact the investigator Rashad Ahmed via raahmed@memphis.edu or contact him at 618-303-0419. If you have any questions about your rights as a volunteer in this research, contact the Institutional Review Board staff at the University of Memphis at 901-678-2705. You can also contact Dr. Emily Thrush, the advisor for this study via (901) 678-4215 or ethrush@memphis.edu or both.
**What happens to my privacy if I am interviewed?**

If you are being interviewed, your responses will be separated from your identifying information using code numbers or pseudonyms.

By signing this form, you acknowledge that you understand the nature of the study, the potential risks to you (if any) as a participant, and the means by which your identity will be kept confidential. Your signature on this form also indicates that you are 18 years old or older, and that you give your permission to voluntarily serve as a participant in the study described.

Thank you for volunteering and I appreciate your efforts for sparing time for this research study.

Sincerely,

Rashad Ahmed
Graduate student, Applied Linguistics
The University of Memphis, TN, USA

---

Signature of person agreeing to take part in the study  
Date

Printed name of person agreeing to take part in the study

Name of [authorized] person obtaining informed consent  
Date
Appendix G: Students’ Recruitment Email

E-mail to the English Department at the University of Memphis (U of M)

(to be sent to)
The undergraduate instructors volunteered to participate in a research Study on,

Teachers’ Practices and First-year Students’ Perspectives on Peer Review in Academic Writing Classes

Dear participant,

I am Rashad Ahmed, a graduate student at the University of Memphis, Department of English, being guided in this research by Professor. Emily Thrush, Department of English at the University of Memphis. You are being invited to participate in this research study entitled Teachers’ and Students’ Perspectives on Peer Review in Academic Writing Classes: A Study on First-year Instructors and Students in the United States. Your volunteer participation in this research study will enable you to be among your other instructors in the department of English who will help the researcher to successfully complete his research. The participation is voluntary and every effort will be made to minimize the time researcher will take for data collection.

Please feel free to contact me on 618-303-0419 or send me an email via raahmed@memphis.edu Thank you for volunteering and I appreciate your efforts for sparing time for this research study.

Sincerely,

Rashad Ahmed
Graduate student, Applied Linguistics
The University of Memphis, TN, USA
Appendix H: Instructors’ Recruitment Email

E-mail to the English Department at the University of Memphis (U of M)

(to be sent to)
The undergraduate students volunteered to participate in a research Study on,

Teachers’ Practices and First-year Students’ Perspectives on Peer Review in Academic Writing Classes

Dear participant,

I am Rashad Ahmed, a graduate student at the University of Memphis, Department of English, being guided in this research by Professor. Emily Thrush, Department of English at the University of Memphis. You are being invited to participate in this research study entitled Teachers’ Practices and First-year Students’ Perspectives on Peer Review in Academic Writing Classes. Your volunteer participation in this research study will enable you to be among your classmates who will help the researcher to successfully complete his research. The participation is voluntary and every effort will be made to minimize the time researcher will take for data collection.

Please feel free to contact me on 618-303-0419 or send me an email via raahmed@memphis.edu Thank you for volunteering and I appreciate your efforts for sparing time for this research study.

Sincerely,

Rashad Ahmed
Graduate student, Applied Linguistics
The University of Memphis, TN, USA
Appendix I: IRB approval

PRO-FY2017-261 - Initial: Approval - Exempt

irb@memphis.edu
Wed 1/25, 8:50 AM
Emily A Thrush (ethrush); Rashad Ali Ahmed (raahmed); Teresa S Dalle (tsdalle)

Institutional Review Board
Office of Sponsored Programs
University of Memphis
315 Admin Bldg
Memphis, TN 38152-3370

Jan 25, 2017

PI Name: Rashad Ahmed
Co-Investigators: Rashad Ahmed
Advisor and/or Co-PI: Emily Thrush
Submission Type: Initial
Title: Teachers' and Students' Perspectives on Peer Review in Academic Writing Classes: A Study on First-year Instructors and Students in the United States
IRB ID: #PRO-FY2017-261
Exempt Approval: Jan 24, 2017

Approval of this project is given with the following obligations:

1. When the project is finished or terminated, a completion form must be submitted.

2. No change may be made in the approved protocol without prior board approval.

3. Exempt approval are considered to have no expiration date and no further review is necessary unless the protocol needs modification.
Appendix J: Permission to adapt interview questions