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The Relationship Between Leadership Qualities and Group Collaboration in Third-Grade Students.

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Abstract

Leadership in any area of vocation is widely recognized as a vital component of success. Coupled with this is the ability to work collaboratively with other individuals. This study focused on leadership qualities, mainly emotional intelligence, in third-grade students and whether those qualities affected their level of collaboration. The specific leadership qualities observed for this study were narrowed down to emotional intelligence (self-awareness, self-regulation, motivation, empathy and social skill) along with cognitive intelligence and confidence (Goleman, 2004). This exploratory mixed-method required the participants (23 third-grade students) to interact with their peers in a small group setting, with the goal of completing a set of tasks in a collaborative activity. The leaders of each group were identified prior to the activity, and the researchers carefully observed their level of collaboration and compared it to the qualities of leadership they exhibited. The observation notes of each area (collaboration and leadership qualities) were scored using an original rubric and compared. The results indicated that groups who contained a leader who was emotionally intelligent collaborated on a higher level, and had an increased number of positive interactions. Groups whose leaders lacked emotional intelligence, despite being successful with the activity, also lacked in collaboration.
Introduction

Educators have the responsibility of creating an atmosphere that is best suited to enhance learning. This often requires establishing community, and developing a culture of collaborative activities. Every classroom contains particular students who shine as leaders in several different areas, but how often do those students contain qualities that make a leader successful long term? For leaders to be successful collaboratively, it is necessary they be able to work well with others, first now and then later in the work force. Teachers have the opportunity to cultivate emotional intelligence and, therefore, collaborative skills, in their students. The researchers were aware that adults contain emotional intelligence along with leadership qualities but were interested to see whether elementary students displayed evidence of this as well. The interest was furthered as they pondered whether there was a relationship between students who displayed emotional intelligence and their success with collaboration. This led them to conduct a study of third-grade students that explored the relationship between leadership qualities (emotional intelligence) and collaboration.

Research Design

This exploratory mixed-method study gathered qualitative data in the form of observation notes, which were later interpreted, scored and translated into quantitative data. After reviewing the past research, the researchers hypothesized that students who showed high levels of emotional intelligence coupled with leadership qualities would have a higher level of collaboration within their groups. The criteria observed was categorized into two main definitions: EQ (emotional intelligence), which is defined as awareness of one’s self and emotions as well as others (Goleman, 2004), and collaboration, essentially how well the students
worked with their teammates. EQ characteristics included: self-awareness, self-regulation, motivation, empathy and social skill (Goleman, 2004).

**Literature review**

Leadership has been an abstract area of study since the beginning of human existence. Prentice (2004) defined leadership as “The accomplishment of a goal through the direction of human assistants” (p. 102). Leaders in school settings, mainly principals and teachers, often create an atmosphere where individuals feel empowered to take uncertain but well-calculated risks (Chance & Segura, 2009; Renihan & Noonan, 2013; as cited in Preston & Barnes, 2017). Effective leaders, even outside the school environment, accomplish this in their respective settings, and research has attempted to narrow down specific leadership qualities that make this possible. However, one area of particular interest is called emotional intelligence, also known as EQ. Daniel Goleman (2004) conducted a study of successful company leaders and found that although distinguished leaders contained qualities such as vision, determination and intelligence, the most effective leaders were set apart by their emotional intelligence. Emotional intelligence included five qualities: self-awareness, self-regulation, motivation, empathy and social skill. Self-awareness was defined as one’s ability to recognize his/her emotional and physical strengths and flaws and how that impacted his/her work (Goleman, 2004). Self-regulation involved one’s ability to control his/her biological and psychological impulses by means of integrity, reflection and thoughtfulness. Motivation, a characteristic nearly every leader must contain, referred to one’s ability to accomplish a task successfully while superseding all expectations. Empathy and social skill were related to a leader’s ability to successfully navigate relationships with other people. Leaders were empathetic when they were able to “sense and understand the viewpoints of everyone around the table” (Goleman, 2004, p. 89). Social skill was simply a leader’s ability
to treat someone kindly, while continuing to be efficient in the task at hand (Goleman, 2004). In his study, Goleman (2004) found a direct link between EQ and measurable business results.

Due to the fact that emotional intelligence is compiled of psychological and developmental factors, leaders who contain EQ are both born and made (Goleman, 2004). Although this cannot be confidently proven, Goleman (2004) stated that EQ increases as a person gets older. As age increases, a leader’s ability to develop characteristics such as empathy and self-regulation also increase. When applied to elementary students, this means that they may or may not exhibit early signs of emotional intelligence dependent on their age and stage of development. However, in order for students to be successful leaders in the future, they must eventually develop these the five characteristics of EQ. The question is then, will emotionally intelligent leaders also be able to collaborate effectively?

Collaborative learning interactions, as defined by Frasat and Khurram (2011), are “learning conditions where learners independently and freely work to achieve success in their tasks in groups” (p. 33). Collaborative activities require the participant to work with others, while also independently accomplish the task at hand. Benefits of collaboration include learning civic responsibility and how to cooperate with others. Abilities which students are required to learn for the work field (sharing ideas, comparing and contrasting opinions, defining goals) are developed through collaboration in the school setting (Gonzales, Saenz, Bermeo, & Chaves, 2013). The transfer of ideas from person to person within a collaborative framework elevates students’ academic confidence (Frasat & Khurram, 2011). Rather than have individuals working independently, void of other points of view, collaborative learning expands a student’s grasp of a topic. Therefore, it is vital that students learn how to collaborate effectively, as it impacts their future. They must be able to be open to other’s ideas, control their own impulses, be motivated to
work collectively, amongst a plethora of other things. Considering this, it is safe to make an obvious assumption that emotional intelligence will positively impact one’s ability to collaborate effectively.

In a study conducted by Frasat and Khurram (2011), the results indicated that academic confidence, creativity and emotional intelligence were promoted through collaborative learning. This suggests a link between EQ and collaboration. In fact, leadership in and of itself is seen as collaborative in nature, where groups are aligned and motivated towards a single purpose that promote high quality teaching and learning (Ramsden, 1998; King & Trowler, 2000; Osse-Asare, Longbottom & Murphy 2005; as cited in Parrish, 2015). This relationship between leadership and collaboration creates a need for leaders to be effective in both areas and emotional intelligence is the key to success in both. Goleman (2004) stated emotional intelligence was the “sine qua non of leadership,” without it, leaders are not nearly as effective (p. 82). Little research has been conducted on the development of emotional intelligence in elementary students, but the link between EQ and collaboration was enough to create a foundation for this study.

**Methodology**

The participants for this study were selected from a private elementary school located in Collegedale, Tennessee. The researchers chose third-grade students specifically because of their age in relation to their developmental stage. During this stage, third-graders enjoy working in teams and begin developing awareness of their strengths and weaknesses (Morin, n.d.). The researchers were also interested to see whether EQ and confidence were exhibited this early in the developmental process. For the study to remain ethical, the researchers developed a consent form which the students took home and the parents signed. The students who did not return a slip were not included in this study. Unfortunately, two of the four students who did not return a slip
were the identified leaders who were being observed. At this point in time, the researchers removed these students from the research report until their consent form had been received.

Before the collaborative activity, the researchers visited the classroom during the same time the activity was going to occur. This was done to avoid any outliers, so the students were used to seeing strangers in the classroom on a consistent weekly basis. During this time, they collected the names of the students, which were later changed to maintain anonymity, and asked the teacher to identify the leaders in the class. Once identified, they took observation notes of the leaders to get a grasp of how they interacted with their peers and what their personalities were like. This gave the researchers background knowledge to take into account the day of the activity. The collaborative activity took place three weeks later.

**Data Gathering**

The collaborative activity was based off a math lesson from *Go Math* that focused on identifying patterns in multiplication. To reduce outliers and abnormal behavior patterns, the teacher facilitated the activity while the researchers observed and took notes. The activity was organized similar to a scavenger hunt. Each group was tasked with solving five diverse types of math problems that ranged from creating a word problem to solving a simple multiplication fact. They had to match their answer with one of the multiple-choice answers, and if they answered correctly it would lead them to a new location in the classroom that contained their next clue. Each clue was written intentionally to measure different areas of collaboration such as participation, accuracy and efficiency. The groups were made up of five students and one identified leader. The test was to see how the leader reacted to this group activity and whether they displayed evidence of emotional intelligence along with proper collaborative strategies.
Data Analysis

Once the data was collected in the form of observation notes, the researchers developed two rubrics, the first one measured characteristics of EQ, confidence and cognitive intelligence, while the second measured characters of successful collaboration (positive vs negative interactions, personal participation, accuracy, efficiency, and teamwork). The scale was based off of time and percentage increments. The lowest score available was a one, which was interpreted as, “This characteristic was shown 25% or less of the time,” etc.

The graphs and charts contained the highlighted names of the leaders whose parents gave consent for participation in the study. The names which were not highlighted were leaders who emerged throughout the collaborative activity who were not originally recognized. They were included only if they took charge of the activity at some point in time. Figure 1 was the rubric used to score levels of collaboration. Students were scored based off their levels of efficiency (how quickly they were able to finish the activity as a group), participation (their level of participation/engagement throughout the entire activity), accuracy (whether their answers were correct as individuals and a group), positive vs negative interactions in between team members, and how well they worked as a group rather as opposed to individually. The student leaders were scored higher when they exhibited these characteristics a majority of the time during the activity.

The qualitative observation notes were sorted and categorized by each student leader and then carefully considered during the scoring process. Figure 2, similar to Figure 1, scored the amount of evidence the students displayed in relation to emotional intelligence. The characteristics included self-awareness (the student’s ability to self-monitor and recognize their strengths and weaknesses), self-regulation (otherwise known as self-control), motivation (the ability to push themselves and others), empathy (the ability to be aware of other’s feelings,
thoughts and concerns), social skill (the ability to treat others fairly and kindly while still being productive), confidence (the student’s level of self-efficacy) and lastly, cognitive intelligence (simply put, how smart the student was) (Goleman, 2004). Figure 3 showed the cumulative scores of each student in either area. The numbers from the rubric in Figure 1 and Figure 2 were added respectively and compared to one another. The data was scored on a numerical scale with the highest possible score of four in each category, minus negative interactions (which contained a low score of -4). There was four and 20 total for Figure 1, and four and 28 for Figure 2. The student’s names were not used and pseudonyms were given.

**Reporting Results**

The results indicated that the students who displayed high levels of EQ (specifically empathy and social skill) also exhibited higher levels of collaboration. The opposite was also true for students who exhibited little evidence of EQ. Devin and Tyler, both original identified leaders, did not display high amounts of EQ, and, therefore, their level of collaboration was also low. Devin immediately took charge of the group, refusing to allow his teammates to be involved. He read every clue and was met with complaints such as, “Why do you always get to read the clue?” Although his level of intelligence, self-motivation and regulation were high, the level of collaboration within his group was low. His ability to manage himself was unprecedented, but he struggled when it came to managing relationships with other individuals. Contrary to this was Ethan, an unidentified leader. Throughout the activity, Ethan took charge after his leader lacked motivation. He rallied his group members and included each one and his/her opinion. Rather than decide independently, he would ask for the group member’s preferences. A prime example was during clue number three. The groups were tasked with deciding between singing a math song or repeating a multiplication fact. Ethan asked his
teammates what their preferences were and listened accordingly. Although the group was not the most efficient, the level of positive interactions and collaborative characteristics were very high. These results suggested that the researcher’s hypothesis was correct and that students who began exhibiting early signs of EQ were able to collaborate more effectively with their peers.

Figure 1

<table>
<thead>
<tr>
<th>Names</th>
<th>Efficiency</th>
<th>Participation</th>
<th>Accuracy</th>
<th>Positive</th>
<th>Negative</th>
<th>Teamwork</th>
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<tbody>
<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>-1</td>
<td>2</td>
</tr>
<tr>
<td>Ethan</td>
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<td>3</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
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<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>-3</td>
<td>1</td>
</tr>
<tr>
<td>Tyler</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>-2</td>
<td>2</td>
</tr>
<tr>
<td>Richard</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>-1</td>
<td>2</td>
</tr>
</tbody>
</table>

1- Showed evidence 25% of the time  
2- Showed evidence 50% of the time  
3- Showed evidence 75% of the time  
4- Showed evidence 100% of the time

Graphic 1

![Characteristics of Collaboration Chart](chart.png)
### Figure 2

<table>
<thead>
<tr>
<th>Names</th>
<th>Self-awareness</th>
<th>Self-regulation</th>
<th>Motivation</th>
<th>Empathy</th>
<th>Social Skill</th>
<th>Confidence</th>
<th>Cognitive Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ethan</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Devin</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Tyler</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Richard</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

### Graphic 2

#### Emotional Intelligence & Leadership Qualities

1- Showed evidence 25% of the time  
2- Showed evidence 50% of the time  
3- Showed evidence 75% of the time  
4- Showed evidence 100% of the time
Figure 3

<table>
<thead>
<tr>
<th></th>
<th>Collaboration</th>
<th>Emotional Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph</td>
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<td>12</td>
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<tr>
<td>Ethan</td>
<td>9</td>
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<tr>
<td>Tyler</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Richard</td>
<td>13</td>
<td>20</td>
</tr>
</tbody>
</table>
Conclusions

Anytime children are involved in the process of research, there can be several limitations. This study contained five significant limitations. Firstly, the teacher warned the researchers ahead of time that the student leaders in her classroom often led the class astray. That specific class was the most challenging in the areas of engagement and behavior in the entire school. This was taken into account during the initial observations and again in the activity and was scored accordingly under the self-regulation category. Another limitation was the sample size. Time only allowed the study to be conducted with one classroom. If the study had been conducted with more than one third-grade classroom, the reliability of the activity may have been increased.

The third limitation related to the school subject. Mathematics is already a difficult subject where many students contain low self-efficacy/academic confidence. This may have contributed to the activeness and confidence of the leader being observed. If the leaders did not feel confident answering the questions, they may have led/acted in a way that was different than normal. The study could have been improved if the collaborative activity was done during a social event, or using more than one topic. The fourth limitation was due to an ethical complication. Because two of our leaders did not return a consent form, the researchers were not permitted to use their data. This shrunk the pool of data even more than the original amount. The study could have been strengthened had the researchers taken initiative to email/contact the parents to encourage the consent form to be returned. The final limitation occurred during the activity itself. The students had seen the researchers hide the clues before school started, so when the activity began, rather than read the clues, they rushed to the places they had seen the clues placed. This hindered their accuracy score and created confusion for the groups.
Just as research suggested, this study identified a relationship between collaboration and emotional intelligence. The leaders who contained a high EQ were able to collaborate more successfully within their groups. The leaders who lacked EQ, as Goleman (2004) referenced, may have been effective, but were not set apart or truly successful in the long run. Because emotional intelligence develops with age, the different characteristics were not overly exhibited, however, the ones that were displayed were significant.

The researcher’s recommendations for action in the future classroom consist of actions they will emulate as well. Students must be taught not only about academic subject, but how to live successful lives in the work force. Education plays a vital part in developing students to become leaders in their respective vocation, but every successful leader contains more than just cognitive intellect and confidence. They must be able to control their impulses and emotions, using them to strengthen their work, not hinder it. Leaders must be able to collaborate with teams effectively and empower them to move forward. This can only be done through learning empathy and social skill. With this in mind, teachers can undertake the task of helping their students develop these characteristics, both EQ and IQ. By intentionally developing these areas, teachers can not only improve their student’s leadership abilities long-term, but even community-building in their current classrooms. This study can be easily replicated to test the current stage of emotional intelligence within their classroom leaders. Once tested, the teachers will have a better understanding of where to begin developing these areas and how that may impact effective collaboration.
Appendix

Consent Form

SOUTHERN ADVENTIST UNIVERSITY
PARENTAL PERMISSION FORM FOR CHILD’S RESEARCH PARTICIPATION

Study Title: The Relationship Between Leadership Qualities and Group Collaboration in Third-Grade Student

Principal Investigator: Brianna Fernandez & Vanessa Hernandez

IRB Study Number:

Your child is being asked to take part in a research study. This form has important information about the reason for doing this study, what we will ask your child to do, and the way we would like to use information about your child if you choose to allow your child to be in the study.

Why are you doing this study?

Your child is being asked to participate in a research study about the relationship between leadership qualities and collaboration. We are looking for a correlation between students who show early signs of leadership qualities including emotional intelligence and the way they collaborate with their fellow peers.

The purpose of the study is to see if a child who exhibits early signs of leadership qualities and emotional intelligence will influence their level of collaboration.

What will my child be asked to do if my child is in this study?

Your child will be asked to participate in an activity that requires them to collaborate with their peers in a group setting, not much different than regular school. The students will not be aware that they are participating in an experiment, so the outliers and effect on the results will be minimized. Participation should take about fifteen minutes in one class period.

What are the possible risks or discomforts to my child?

To the best of our knowledge, the things your child would be doing in this study have no more risk of harm than the risks of everyday life. Unless your child has difficulties working in a group setting, this study will not negatively affect them.

As with all research, there is a chance that confidentiality of the information we collect about your child could be breached – we will take steps to minimize this risk, as discussed in more detail below in this form. In this case, the only sensitive information that will be collected will be the name of your child, however we are coding the names to further ensure confidentiality.

What are the possible benefits for my child or others?
Taking part in this research study may not benefit your child personally, but we may learn new things that will help future teachers learn how to invest in the leaders in their future classrooms.

**How will you protect the information you collect about my child, and how will that information be shared?**

Results of this study may be used in publications and presentations. The only presentation the data will be shared in will be within the classroom setting or campus research day.

An exception to our promise of confidentiality is that we will report evidence of child abuse or neglect.

**Financial Information**

Participation in this study will involve no cost to you or your child. Your child will not be paid for participating in this study.

**What are my child’s rights as a research participant?**

Participation in this study is voluntary. Your child may withdraw from this study at any time -- you and your child will not be penalized in any way or lose any sort of benefits for deciding to stop participation. If you and your child decide not to be in this study, this will not affect the relationship you and your child have with your child’s school in any way. Your child’s grades will not be affected if you choose not to let your child be in this study.

If your child decides to withdraw from this study, the researchers will ask if the information already collected from your child can be used.

**Who can I contact if I have questions or concerns about this research study?**

If you or your child have any questions, you may contact the researchers below.

Vanessa Hernandez  
Phone: (503) 270-0030  
Email: vanessah@southern.edu

Brianna Fernandez  
Phone: (407) 919-8226  
Email: bfernandez@southern.edu

**Parental Permission for Child’s Participation in Research**

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. I give permission for my child to participate in the research study described above and will receive a copy of this Parental Permission form after I sign it.
Optional Study Elements

Initial one of the following to indicate your choice:

_____ (initial) I agree to allow the researchers to collect my child’s name

_____ (initial) I do not agree to allow the researchers to collect my child’s name

__________________________________________________________________________

Parent/Legal Guardian’s Name (printed) and Signature  Date

__________________________________________________________________________

Name of Person Obtaining Parental Permission  Date

Parents, please be aware that under the Protection of Pupils Rights Act (20 U.S.C. Section 1232(c)(1)(A)), you have the right to review a copy of the questions asked of or materials that will be used with students. If you would like to do so, you should contact [Principal Investigator] to obtain a copy of the questions or materials.
**Collaborative Activity**

**Clue 1**

As a team, figure out the pattern in the chart above. Complete the missing numbers. On the back, explain how you found your answer.

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
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<td></td>
<td>54</td>
<td>63</td>
<td></td>
<td>81</td>
<td></td>
</tr>
</tbody>
</table>

**Clue 2**

Solve this math problem as a team. *Everyone needs to show their own work on the pieces of paper provided*. In other words, everyone should have a piece of paper where they show their work. Write your name on the paper. When you’re finished, turn these papers in to Mrs. Tucker.

2. Three-toed sloths have four legs. How many toes would 5 sloths have?

**Clue 3**

These cut up pieces of paper form two multiplication problems. Everyone needs a piece of the puzzle. Write your name on the back of your puzzle piece. Solve the puzzle and the equation correctly and find your next clue.

**Clue 4**

Decide as a team which option you prefer:

1. Sing a multiplication song of your choice to Mrs. Tucker that everyone knows.
2. Repeat from memory with no mistakes, as a group, a multiplication fact to Mrs. Tucker.

**Clue 5**

As a team, create a multiplication word problem that has an answer of 36.
References


