

# Strategies that Best Support Students' Perceptions of Autonomy

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**Abstract:** Autonomy-supportive climates in the classroom allow for a range of positive benefits for students through a variety of different strategies. Many studies have explored how these positive benefits are evident after an intervention, but no study has explored which autonomy-supportive strategy is best when aiming to maximize the many benefits of experiencing autonomy. This study looked at three autonomy-supportive strategies: providing choice, providing feedback, and encouraging students' expression of their perspectives, in hopes of finding which strategy was most effective. As it happened, in some cases the benefits that students experience depended on the autonomy-supportive strategy to which they were being exposed. The results of this study showed that when looking to increase the benefit of higher behavioral engagement, providing students with the autonomy-supportive strategy of choice was the most effective. When looking to increase the benefit of more expressions of positive emotions, providing students with meaningful feedback was the most effective. In other cases, such as when assessing students' intrinsic motivation and creativity, students' experiences were equally high, regardless of the autonomy-supportive strategy being used. The results of this study support past research stating the importance of autonomy in the classroom, but supplements the research by showing that some benefits of experiencing autonomy can be more evident depending on the autonomy-supportive strategy being implemented.

## Introduction and Justification

Not all teachers create environments that satisfy students' need for autonomy- the ability to be in control of one's own actions through their personal choice and desire to fulfill them (Deci & Ryan, 2012, 2000). In classrooms where the teacher does not create an autonomy-supportive climate, students are more likely to experience high levels of anxiety and depression, lower academic achievement, less engagement in the material, and lower self-regulation (Cheon et al., 2018; Deci & Ryan, 2012; Núñez & León, 2019). As such, the need to create environments like so is clear, and prior research has provided clues as to how teachers can best meet students' autonomy needs. However, studies of the effectiveness of each strategy are noticeably absent from this body of literature, despite their potential usefulness to teachers who strive to find and utilize efficient ways to motivate their students. The purpose of this study is to address this need by comparing different methods to support student autonomy in an elementary context.

## Literature Review

Autonomy support involves actions and tasks that an educator implements into the learning environment to enhance students' control over their academic behaviors (Angelica & Katz, 2020; Cheon et al., 2018 Martinek et al., 2016). Self-determination theory explains

how a positive environment that facilitates autonomy can lead to intrinsic motivation, which leads to valuable outcomes (Deci & Ryan, 2012). According to Deci and Ryan (2012), humans' psychological well-being is influenced by their satisfaction of the three basic needs: autonomy, competence, and relatedness (Deci & Ryan, 2012). [First, autonomy]. Autonomy reflects the belief that one's actions are of their own volition (Deci & Ryan, 2000). Competence involves understanding the task at hand and feeling adept enough to pursue it (Deci & Ryan, 2000. Deci & Ryan, 2012). Relatedness refers to feeling as though one belongs and is well-connected with others (Deci & Ryan, 2000, 2012).

Being in an environment that fulfills one's basic psychological needs leads to higher intrinsic motivation, which essentially means enjoying tasks for the sake of doing them without an external incentive (Deci & Ryan, 2012, 2000). Out of the three basic psychological needs mentioned in the self-determination theory, autonomy is a key component for intrinsic motivation to transpire (Deci & Ryan, 2012). Without autonomy, competence and relatedness are seldom apparent (Deci & Ryan, 2012). Different environments and social contexts vary in how they affect different psychological needs (Deci & Ryan, 2012). They can either facilitate or harm the psychological wellness of a person (Deci & Ryan, 2012). This suggests that being in a learning environment that promotes autonomy is crucial.

According to self-determination theory, there are many aspects to facilitating an individual's perception of autonomy support such as acknowledging student perspectives, offering meaningful rationales, using non-controlling language, being encouraged to experiment, and being provided choice (Deci & Ryan, 2012). There are many beneficial results that have been associated with perceptions of autonomy such as higher self-esteem, increased self-regulation, healthier personal behaviors, higher achievement, and greater psychological wellness (Deci & Ryan, 2012; Ryan, 2021). Not having support that allows an individual to have feelings of autonomy can inhibit a person's psychological needs from being met (Deci & Ryan, 2000; Reed-Fitzke & Lucier-Greer 2020).

There are many ways that an educator can enhance students' autonomy satisfaction. Autonomy-supportive strategies can be organized into three separate categories (Jang et al., 2010). The first category is *nurturing inner motivational resources*. This includes offering meaningful choices and incorporating student's interests and needs into their learning (Jang et al., 2010; Núñez & León, 2019, 2016; Reeve, 2006). The second category is *relying on non-controlling language*. This includes providing meaningful rationales to explain the reasoning for completing a task. It also involves using non-controlling language (Angelica & Katz, 2020; Núñez & León, 2019, 2016; Reeve, 2006). Instead of making students feel forced to do something by telling them what they "must" or "have" to do, educators should tell students what they "can" or "should" do (Altermann et al., 2018; Angelica & Katz, 2020; Núñez & León, 2019, 2016). Lastly, teachers can provide students with informational feedback (Deci & Ryan, 1987; Ryan, 2021). By offering feedback that is informative but not controlling, students then gain control of the outcomes of any future similar tasks when they implement it (Jang, 2010).

The last category is *acknowledging students' perspectives and feelings*. This includes acknowledging negative feelings that students may express when they are faced with a challenge (Angelica & Katz, 2020; Nunez & Leon, 2019). Although it is fine for students to view some content as challenging, teachers should give them the tools to overcome those

challenges (Angelica & Katz, 2020; Núñez & León, 2019). This category also includes embracing student's perspectives, such as taking their thoughts and ideas into consideration and displaying patience (Amoura et al., 2015). Whereas teachers must often provide their perspectives of the content, autonomy-supportive teachers do not force those perspectives on their students (Amoura et al., 2015). Teachers cannot simply give students a sense of autonomy; they can only create an environment, by using the above mentioned resources, to enhance students' perceptions of autonomy (Reeve, 2006).

When a student becomes aware of their autonomy and recognizes they are a facilitator of their own learning in the classroom, many benefits can begin to arise. When students feel they are contributing to their learning process at their own volition, they experience deep learning and higher creativity (Núñez & León, 2016, 2019). Students report more positive emotions in the classroom such as heightened interest, excitement, and feelings of acceptance and fewer negative emotions such as anxiety and depression (Flunger, 2018; Guay, 2008; Reed-Fitzke & Lucier-Greer 2020). Most importantly, students who have high perceived autonomy in the classroom experience intrinsic motivation (Deci & Ryan, 2012, 2000). Intrinsic motivation refers to the desire to engage in behaviors for the sake and enjoyment of doing them, within any extrinsic rewards being necessary (Aelterman et al., 2018; Deci & Ryan, 2000, 2012; Stoa et al., 2020). Intrinsically motivated people benefit more from an activity due to having different experiences while they are participating due to their outlook (Deci & Ryan, 2000). Even if an extrinsically motivated person was equally efficient, they would not get as much out of the task (Deci & Ryan, 2000).

Significant results in a student's educational achievement and psychological well-being while at school can occur when an educator implements any of the aforementioned autonomy supports (Cheon et al., 2018; De Meyer et al., 2014; Moore et al., 2020). In turn, students become more intrinsically motivated to learn about the content being covered in their classroom (Amoura et al., 2015; Angelica & Katz, 2020; Deci & Ryan, 2012, 2000). Having a high perception of autonomy leads students to pursue new experiences, challenges, and additional knowledge on their own due to their increased interest and deep learning of the content (Deci & Ryan, 2000; Nunez & Leon, 2019). It also leads to higher creativity, better mental health, and more engagement in the content (Lüftenegger, 2012; Núñez & León, 2016). This suggests that an individual's perception of autonomy has effects on practically every aspect of the student while in their learning environment.

Previous research has explored many interventions to facilitate autonomy support in a variety of subjects such as physical education, English language arts, chemistry, mathematics, and physics (Amoura et al., 2015; Cheon et al., 2018; Moore et al., 2020). No study has compared multiple autonomy supports in the same setting in order to see which of the suggested autonomy supports (e.g. choices, feedback, non-controlling language, etc.) promotes the highest levels of perceived autonomy within students. Furthermore, very few studies have explored the effects of any single autonomy support in primary grades, while many studies have explored high school and college level students (De Meyer et al., 2014; Flunger et al., 2018; Stoa, 2020). Knowing which autonomy-supportive implementations are the most effective early on in a child's educational career could set students up for more school success as their ability to digest the foundational content needed will be fulfilled on

a deeper level. Such research can help teachers identify which autonomy-supportive strategies are the most worthwhile to implement into their classrooms. It is also important as it will allow current students to share their perceptions of autonomy after each of these separate autonomy support experiences in order to most effectively pinpoint which autonomy-supportive strategy is the most effective. This study will help to inform stakeholders in the school system of which autonomy-supportive efforts are the most beneficial for students in primary grades.

## **Present Study**

The present investigation examined the effectiveness of three autonomy- supportive strategies used by teachers that have been stated in previous research to have improved students' perceptions of autonomy.

### **Main Research Question**

Which autonomy-supportive strategy leads to the highest level of student perceptions of autonomy in children in first grade?

## **Methods**

### **Participants**

A total of 17 student participants were recruited. All student responses met the inclusion criteria and were used when analyzing data. Participants' age range was six years old to seven years old. There were eight female participants and nine male participants. Participants consisted of first grade students from an elementary school on the East Coast and were recruited through convenience sampling. Informed consent was obtained from parents of the participants and the students prior to collecting data via the behavioral checklist, survey, and focus group.

### **Procedures**

The three autonomy support strategies chosen for this research were choice, accepting students' perspectives, and feedback. In order to evaluate the three different autonomy support strategies separately, students were presented with one strategy per week for three consecutive weeks and students' perceptions of autonomy were evaluated through qualitative data collection.

During week one, which focused on choice, students were given multiple writing prompts to choose from each day during their writing block. As students worked on writing in their journals, the two teachers in the classroom used a behavioral checklist (See Appendix A) focused on autonomy-supportive behaviors. On Friday, students were administered a shortened version of the Intrinsic Motivation Inventory (Ryan, 1982). The teacher read the four items out loud and students were asked to respond by circling the emoji that best described their feelings.

During week two, which focused on accepting student's perspectives, students were given writing prompts that focused on students' perspectives such as "What is something you wish your teacher knew about you?" or "How was your day today?" each day during their writing block. As students worked on writing in their journals, the two teachers in the classroom used a behavioral checklist focused on autonomy-supportive behaviors. On Friday, students again completed the shortened version of the Intrinsic Motivation Inventory.

During week three, which focused on feedback, students were given a single writing prompt each day during their writing block. As students worked on writing in their journals, the two teachers in the classroom used a behavioral checklist focused on the participants behaviors that previous researchers have stated occur when a person is experiencing feelings of autonomy. Each day, the teacher provided personalized feedback on the student journal regarding capitalization, content, and/or punctuation. Each day prior to beginning their writing piece, the teacher shared this feedback with each student individually in a short two-minute conference. Students were encouraged to use their feedback to improve their writing for next time. On Friday, students once again completed the shortened version of the Intrinsic Motivation Inventory.

### Measures

The data was collected using quantitative data. Participants were asked to provide a self-report using an adapted version of the Intrinsic Motivation Inventory in order to measure students' intrinsic motivation (Ryan, 1982). The questionnaire consisted of four items that were adapted from the Interest/Enjoyment subscale of the inventory (see Appendix B). For all items, the word "activity" was changed to "writing activity" in order to be more clear as to what the items were referring. Participants rated the following items that reflected their intrinsic motivation (e.g., "I enjoyed doing this writing activity very much."). Students were asked to circle one of five emojis that best described their feelings towards each item. This task was completed once for each of the three strategies on the Friday of each week. This questionnaire has demonstrated high construct validity in past research (Ryan, 1982). Goudas and Bibble (1994) reported that the Interest/Enjoyment subscale showed high reliability ( $\alpha = .82$ ).

Each week, the teachers in the classroom completed a behavioral checklist in order to measure students behaviors that past research has reported occurs when students have perceptions of autonomy. The checklist assesses behavioral engagement, creativity, and positive emotions. This checklist was completed a total of twelve times, or a total of four times per autonomy-supportive strategy.

Table X:

### *Research Questions and Data Sources*

	Data source 1	Data source 2
<b>Research question 1</b> Which autonomy-supportive strategy leads to the highest level of student intrinsic motivation?	Intrinsic Motivation Inventory	
<b>Research question 2</b> Which autonomy-supportive strategy leads to the highest level of student behavioral engagement?	Behavioral checklist	
<b>Research question 3</b> Which autonomy-supportive strategy leads to the highest level of positive emotions in students?	Behavioral checklist	
<b>Research question 4</b>		

Which autonomy-supportive strategy leads to the highest level of student creativity?

**Research question 5**

Which autonomy-supportive strategy leads to the highest level of student perceptions of autonomy in children in first grade?

Behavioral checklist

Behavioral Checklist

Intrinsic Motivation  
Inventory

## Data Analysis

The items from the IMI questionnaire were all combined through averaging composite scores in order to reduce the data into the student perception of intrinsic motivation.

The items on the behavioral checklist were separated into three autonomy-supportive outcome sub categories that it assessed, behavioral engagement, positive emotions, and creativity. Once the items were separated by subcategories, the items in each category were combined through averaging three separate composite scores in order to assess students' perceptions of autonomy through a variety of benefits.

Due to having one independent variable with three categories of within groups subjects and one continuous dependent variable, and a small sample size, a series of paired t-tests was the most appropriate statistical analysis for both the IMI questionnaire and the Behavioral Checklist.

In order to determine which autonomy-supportive strategy provided students with the highest perceptions of overall autonomy, each individual benefit (intrinsic motivation, behavioral engagement, positive emotions, and creativity) was assessed to see which strategy supported that benefit the most; whichever strategy that is shown to be the most effective across the most benefits will determine which strategy leads to the highest overall student perceptions of autonomy, as that strategy would provide the most wholesome autonomy experience.

## Validity Concerns

Validity was attended to through confirming which behaviors counted towards a "check". For example, when looking into positive emotional expression, it was discussed that a child smiling while working or volunteering to share their writing would constitute a "check" for the "displaying excitement" section. Aside from this, each day, the teachers would alternate which nine children were observed for the behavioral checklist; this way each observer was not solely looking at half of the class and subjectiveness of behaviors was evenly distributed.

## Results

### Research question 1

Which autonomy-supportive strategy leads to the highest level of student intrinsic motivation?

The Intrinsic Motivation questionnaire that assessed students' intrinsic motivation showed that regardless of the autonomy-supportive strategy, students' intrinsic motivation remained moderate to high. The average score for all three strategies was about a 4, which on the likert scale meant that the average score for the four items was the "agree" choice.

*Paired Samples t-test Comparing Choice and Feedback intrinsic motivation Scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	16	4.13	0.55	$p > .05$	0.194258	1.538075
Feedback	16	3.98	0.95			

*Paired Samples t-test Comparing Choice and Perspectives intrinsic motivation Scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	16	4.13	0.54	$p > .05$	0.309591	1.626817
Perspectives	16	3.87	1.05			

*Paired Samples t-test Comparing Perspectives and Feedback intrinsic motivation Scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Perspectives	16	3.87	1.05	$p > .05$	0.10771	1.354228
Feedback	16	3.98	0.95			

## Research question 2

Which autonomy-supportive strategy leads to the highest level of student behavioral engagement?

The behavioral checklist that assessed students' behavioral engagement showed that students' behavioral engagement was the highest when they were involved in the autonomy-supportive strategy of having choice. There was a significant difference with a medium effect size between students' behavioral engagement when having choice versus when expressing perspectives or receiving feedback.

*Paired Samples t-test Comparing Choice and Feedback behavioral engagement scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	16	0.94	0.12	$p < .05$	0.71	6.11
Feedback	16	0.81	0.24			

*Paired Samples t-test Comparing Choice and Perspectives behavioral engagement scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	16	0.94	0.12	p<.01	0.78	33.39
Perspectives	16	0.79	0.25			

*Paired Samples t-test Comparing Perspectives and Feedback behavioral engagement scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Perspectives	16	0.79	0.25	p>.05	0.08	1.2
Feedback	16	0.81	0.24			

**Research question 3**

Which autonomy-supportive strategy leads to the highest level of positive emotions in students?

The behavioral checklist that assessed students' expression of positive emotions showed that students' positive emotions were the highest when students were receiving feedback on their journal entries. There was a significant difference with a medium effect size between students' positive emotions when receiving feedback versus when being provided a choice in their writing prompts.

*Paired Samples t-test Comparing Choice and Feedback positive emotion scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	17	0.57	0.19	p<.05	0.55	7.12
Feedback	17	0.71	0.29			

*Paired Samples t-test Comparing Choice and Perspectives positive emotion scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	17	0.57	0.19	p>.05	0.38	1.83
Perspectives	17	0.64	0.18			

*Paired Samples t-test Comparing Perspectives and Feedback positive emotion scores*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Perspectives	17	0.64	0.18	p>.05	0.27	1.71
Feedback	17	0.71	0.29			



**Research question 4**

Which autonomy-supportive strategy leads to the highest level of student creativity?

The behavioral checklist that assessed students' creativity showed that regardless of the autonomy-supportive strategy, students' creativity remained the same. There was not a significant difference between students' creativity when being provided choice, expressing perspectives, or receiving feedback.

*Paired Samples t-test Comparing Choice and Feedback creativity scores*

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	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	16	0.66	0.29	p> .05	0.14	1.38
Feedback	16	0.62	0.27			

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*Paired Samples t-test Comparing Choice and Perspectives creativity scores*

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	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Choice	16	0.66	0.29	p> .05	0.02	1.07
Perspectives	16	0.66	0.28			

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*Paired Samples t-test Comparing Perspectives and Feedback creativity scores*

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	<i>n</i>	<i>M</i>	<i>SD</i>	<i>p</i>	<i>d</i>	<i>BF</i>
Perspectives	16	0.66	0.28	p> .05	0.12	1.34
Feedback	16	0.62	0.27			

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**Research question 5**

Which autonomy-supportive strategy leads to the highest level of student perceptions of autonomy in children in first grade?

There was no specific strategy that could be considered to be the “best” when comparing choice, perspectives, and feedback across multiple aspects of autonomy-supportive benefits. In order to answer the question, one autonomy-supportive strategy needed to have a significant difference across the multiple benefits of autonomy, which did not happen. Instead, this study showed that certain autonomy-supportive outcomes can occur when specific autonomy-supportive strategies are used. This study showed that creativity and intrinsic motivation was equally evident regardless of the autonomy-supportive strategy. Positive emotions were the most evident when students were receiving feedback. Behavioral engagement was the most evident when students were given a choice in their writing prompts.

## Discussion of Results

The purpose of this study was to determine which autonomy-supportive strategy was the most effective in enhancing students' perceptions of autonomy while in the classroom. Past studies have shown that there are many different benefits to experiencing autonomy, including but not limited to higher positive emotions, behavioral engagement, creativity, and intrinsic motivation (Deci & Ryan, 2012; Lüftenegger, 2012; Reed-Fitzke & Lucier-Greer 2020). Past studies have also shown that there are many different ways to incorporate autonomy in the classroom through providing choice, feedback, and accepting students' perspectives (Angelica & Katz, 2020; Deci & Ryan, 2012; Nunez & Leon, 2019).

This study extends this research by exploring which autonomy-supportive strategy is the most effective when aiming to support student's perceptions of autonomy in hopes of students experiencing all of the aforementioned benefits. In order to do this, the three strategies were assessed separately to determine the effectiveness of each individual strategy when looking at students' intrinsic motivation, behavioral engagement, expression of positive emotions, and creativity. The findings in this research showed that in some cases, such as when assessing students' intrinsic motivation and creativity, students' feelings were equally high regardless of the autonomy-supportive strategy being used. In other cases it showed that there was a significant difference in the benefit the student was experiencing, depending on the autonomy-supportive strategy being used.

When assessing students' behavioral engagement, it was found that students' behavioral engagement was the highest when being provided a choice in the writing prompt they were to address. When assessing students' expression of positive emotions, it was found that students' expression of positive emotions was the highest when writing their journal entry after receiving feedback on their previous writing.

One possibility regarding that heightened displays of positive emotions were most evident when students were receiving feedback is that it was because students had an extra goal that was motivating them as they worked. Students came over to the teacher's desk for a short conference that discussed a strength and weakness in their work. After their conference, they were to begin writing their next entry. There was a heightened amount of pride that students held when writing that was voiced as they were eager to show the teacher their writing and often mentioned how they improved on a specific thing mentioned or how they continued to do something that had been shared as a strength they had. Students were very eager to make the improvements and showed much excitement about it.

The theoretical framework that discusses the importance of intrinsic motivation is supported by this study as this framework states that there are many ways to facilitate feelings of autonomy and that all of the strategies lead to a variety of benefits, most importantly being intrinsic motivation. (Deci & Ryan, 2000; 2012).

## Conclusions and Implications

Previous researchers have shared many different ways to incorporate feelings of autonomy while in the classroom (Deci & Ryan, 2012; Lüftenegger, 2012; Reed-Fitzke & Lucier-Greer 2020). What the literature did not reveal was which strategy was the best when looking at which strategy led to the highest feelings of autonomy in students. The expectation was that one (if any) autonomy-supportive strategy would "trump all", but

instead the findings show that certain strategies can assist in heightening specific behaviors. This study showed that when looking to increase students' feelings of intrinsic motivation or creativity, any of the three autonomy-supportive strategies (providing choice, accepting students' perspectives, and providing feedback) were equally effective. When looking to increase students' behavioral engagement, providing students with choice is most likely to lead to this outcome over the other two strategies assessed. Finally, when looking to increase students' expressions of positive emotions, providing students with feedback is most likely to lead to this outcome over providing choice or having students express their perspectives.

### Limitations

Limitations of this study include that it was conducted in a first grade classroom on the east coast. The results of this study may not be generalizable to first grade students in other areas and the results may not be generalizable to students in other grades. The Intrinsic Motivation Inventory (IMI) was a self-report, and it is possible that student participants answered questions in a socially desirable manner. Another limitation is that it may be possible that the students' young age may have prevented them from recognizing the attempt to have them express themselves during the perspectives week, and the importance of this concept, which may be the reason that the accepting students' perspectives strategy did not stand out as a strategy that increased a specific benefit, the way that providing feedback and providing choice did.

### Implications

I would recommend that teachers looking to increase feelings of autonomy in their students' - use any of the three strategies (providing choice, feedback, and giving opportunities for students to share their perspectives). If teachers are looking to increase a specific benefit of autonomy, such as behavioral engagement, teachers may want to ensure they are providing choice to their students. If a teacher is looking to increase the expression of positive emotions in the classroom, teachers may want to ensure they are providing meaningful feedback to their students.

Future research of this study should include exploring how other autonomy-supportive strategies not used in this study may affect students' intrinsic motivation, expression of positive emotions, behavioral engagement, and creativity. Future research may also include doing this same study in other grades to see if the outcomes vary or remain the same depending on students' age.

Autonomy can be incorporated into the classroom in a variety of ways. There is a vast amount of benefits that can occur when students are experiencing autonomy. This study shows that while some autonomy-supportive strategies result in the same level of specific outcomes, such as with intrinsic motivation and creativity, other autonomy-supportive strategies have a specific, stronger connection to certain outcomes, such as how providing choice leads to higher behavioral engagement and how feedback leads to higher expressions of positive emotions. Autonomy is vital in the classroom and leads to a variety of beneficial outcomes when students experience it. This study supplements the current research that supports the concept of incorporating autonomy into the classroom setting.

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## Appendix A

Behavioral Checklist: To be printed two times in order to cover all 18 participants

**Directions: Place a check next to any behavior that is present during the writing activities**

**Green: behavioral engagement, Blue: positive emotions, Purple: creativity**

Student	Follows directions of task	Acts restless /is unable to sit still (R)	Uses materials inappropriately (R)	Shows anxiety/ worry while doing task	Shows excitement /is smiling while doing task	Voices that he/she does not want to do this (R)	Adds descriptive words/ adjectives in their sentence(s)	Drew a descriptive illustration to go with writing	Copies another students response /idea or teacher example(R)
1									
2									
3									
4									
5									
6									
7									
8									
9									

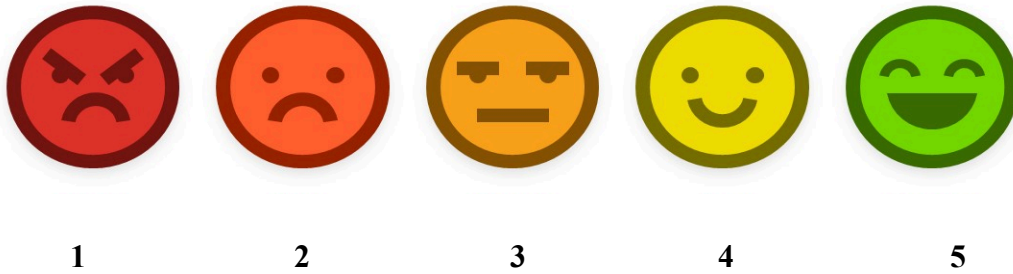
## Appendix B

### Intrinsic Motivation Questionnaire Items (Ryan, 1982)

1. "I enjoyed doing this writing activity very much."



2. "I think this writing activity was interesting."



3. "This writing activity was fun to do."



4. "While I was doing this writing activity, I was thinking about how much I enjoyed it."





1



2



3



4



5