

فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)
السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



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The Effect of Flexible Seating on Focus and Collaborative Behavior in a 2nd Intermediate Classroom

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Abstract:

This mixed-methods action research study investigated the effect of a flexible seating environment on the focus and collaborative behavior of students in a second-grade intermediate classroom. Flexible seating was defined as a classroom arrangement offering diverse seating choices (e.g., wobble stools, bean bags, standing desks) based on principles of student choice, comfort, and movement. Focus, or on-task behavior, was operationalized as the percentage of time students were visually engaged in assigned work, while collaborative behavior was defined and measured by the frequency of specific peer-to-peer academic interactions, such as explaining an idea or providing help. The study aimed to determine if these variables would improve when students were granted autonomy over their learning environment, a concept supported by Self-Determination Theory (Deci & Ryan, 2000).

Participants included 22 second-intermediate students (12 girls and 10 boys), aged 13-14 years in a suburban public school. Quantitative data were collected through structured momentary time sampling observations to measure on-task behavior and tally sheets to count collaborative acts during a three-week baseline (traditional seating) and a six-week intervention phase (flexible seating). Qualitative data were gathered through a teacher-researcher journal, student surveys, and photographs to provide rich context for the numerical findings.

Results indicated a significant positive effect following the implementation of flexible seating. Quantitative analysis showed an increase in average on-task behavior from 74.2% during baseline to 86.5% during the intervention. The frequency of collaborative acts also rose, from an average of 8.5 to 14.2 per observation session. Qualitative data revealed that these improvements were most pronounced during independent and collaborative work blocks, with minimal change during direct instruction. Student surveys indicated that 86 % of participants felt they could focus better when given a choice of seating. The findings suggest that flexible seating, when implemented with clear routines and expectations, can effectively enhance students' engagement and peer collaboration by fulfilling psychological needs for autonomy and facilitating social constructivist learning (Vygotsky, 1978). The study concludes with practical recommendations for implementation and suggestions for future research.

Keywords: (seating flexibility, task performance behaviors, cooperation, primary education).

المستخلص:

بحثت هذه الدراسة البحثية الإجرائية متعددة الأساليب في تأثير بيئة الجلوس المرنة على التركيز والسلوك التعاوني لطلاب الصف



فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م

الثاني المتوسط. عُرِفَ الجلوس المرن بأنه ترتيب للفصل الدراسي يوفر خيارات جلوس متنوعة (مثل: مقاعد متأرجحة، وأكياس حبوب، ومكاتب وقوف) بناءً على مبادئ اختيار الطالب وراحته وحركته. تم تفعيل التركيز، أو سلوك أداء المهمة، كنسبة الوقت الذي ينخرط فيه الطلاب بصرياً في العمل المخصص لهم، بينما تم تعريف السلوك التعاوني وقياسه من خلال تكرار التفاعلات الأكاديمية المحددة بين الأقران، مثل شرح فكرة أو تقديم المساعدة. هدفت الدراسة إلى تحديد ما إذا كانت هذه المتغيرات ستتحسن عند منح الطلاب استقلالية في بيئة تعلمهم، وهو مفهوم تدعمه نظرية تقرير المصير (ديسي وريان، ٢٠٠٠). شمل المشاركون ٢٢ طالباً من الصف الثاني المتوسط (١٢ فتاة و ١٠ فتيان)، تتراوح أعمارهم بين ١٣ و ١٤ عاماً في مدرسة حكومية في إحدى الضواحي. جُمعت البيانات الكمية من خلال ملاحظات أخذ العينات اللحظية المنظمة لقياس السلوك أثناء أداء المهمة، وجدول العد لحساب الأفعال التعاونية خلال فترة أساسية مدتها ثلاثة أسابيع (الجلوس التقليدي) ومرحلة تدخل مدتها ستة أسابيع (الجلوس المرن). جُمعت البيانات النوعية من خلال مجلة المعلم الباحث، واستطلاعات رأي الطلاب، والصور الفوتوغرافية لتوفير سياق غني للنتائج العددية. أشارت النتائج إلى تأثير إيجابي كبير بعد تطبيق الجلوس المرن. أظهر التحليل الكمي زيادة في متوسط السلوك أثناء أداء المهمة من ٧٤,٢٪ خلال فترة أساسية إلى ٨٦,٥٪ خلال التدخل. كما ارتفع معدل الأفعال التعاونية من متوسط ٨,٥ إلى ١٤,٢ لكل جلسة ملاحظة. كشفت البيانات النوعية أن هذه التحسينات كانت أكثر وضوحاً خلال فترات العمل المستقلة والتعاونية، مع تغيير طفيف أثناء التدريس المباشر. أشارت استطلاعات رأي الطلاب إلى أن ٨٦٪ من المشاركين شعروا أنهم يستطيعون التركيز بشكل أفضل عند منحهم خيار الجلوس. تشير النتائج إلى أن مرونة الجلوس، عند تطبيقها مع روتين وتوقعات واضحة، يمكن أن تعزز مشاركة الطلاب وتعاونهم مع أقرانهم بفعالية من خلال تلبية الاحتياجات النفسية للاستقلالية وتسهيل التعلم.. البنائي الاجتماعي (فيجوتسكي، ١٩٧٨). وتختتم الدراسة بتوصيات عملية للتنفيذ واقتراحات لأبحاث مستقبلية

الكلمات المفتاحية: مرونة الجلوس، وسلوكيات أداء المهام، التعاون، التعليم الابتدائي.

1.Introduction

A dramatic and essential transformation is taking place in the conventional classroom, that age-old symbol of learning with its immobile rows of desks arranged in front of a single teacher. The very environments in which students study need to be rethought in order to adequately equip them for the complex, collaborative, and frequently non-linear challenges that will face them in the twenty-first century. This development goes beyond incorporating technology into the classroom, it aims to re-designed learning environments to actively cater to the unique physical, cognitive and social emotional requirements of each students. Now that we know that classrooms need change, the challenge is how to make them better places to learn the three pillars of success: concentration, analysis and teamwork.

Students no longer sit at desks facing the front of the classroom, as is the case in many older classroom layouts. Classrooms typically have a traditional layout with the teacher or podium at the front of the room as mentioned on page 27 by Sawers , Wicks , Mvududu, Seeley and Copeland (2016). Students have more freedom of choice and opportunity as classrooms start to use more flexible seating arrangements. It is important to change the classroom environment to fit each student's needs because there is a link between how students see things and how involved they are in learning.

Uniform desks arrange in straight rows has been the standard classroom



فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م

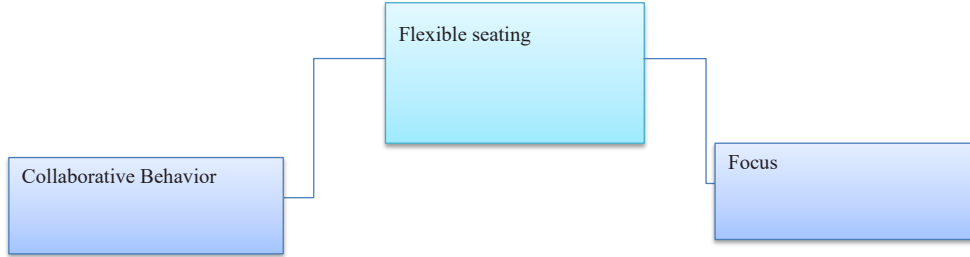


layout for many years, creation an organize environment focused on the teacher. Rather than valuing students' comfort autonomy or opportunities for peer to peer connection. This industrial model placed an emphasis on control and efficiency with the goal of facilitating silent autonomous work and direct instruction. The idea of flexible seating as arisen a strong inventive replacement in reaction to these concentrate the classroom becomes a dynamic landscape of possibilities when students have authentic choices in where and how they study and are offered variety of seating alternatives (Cranfield , 2019). The classroom space can made more accessible by including options like low tables , floor cushions , bean bags , standing workstations. Wobble stools and soft seats. The need for movement and individualized instruction is specially noticeable in elementary settings where its implementation has experienced tremendous development.

Qualitative studies and compelling anecdotal evidence suggesting advantages in student engagement and satisfaction often propel the increasing popularity of flexible seating. A more dynamic , student centered environment is often described by teachers as a result. But there is a serious lack of research that focuses on practitioners within all this excitement. More thorough and context specific research is needed to determine the model's direct impact on specific, measurable student behaviors in a second grade intermediate classroom , including focused on task behavior and genuine , productive collaborative (Saavedra, 2021). There is a lack of evidence about its practical effectiveness for early primary educators' students since most studies are either too broad in scope or only include students in later grade. Finding out empirically whether and how students' basic academic behaviors are improved is different from just observing that they seem happier

Consequently, the purpose of this study is to conduct a comprehensive evaluation of the effectiveness of this instructional technique , moving beyond anecdotal evidence. This study is based on the following inquiries : I will start by asking what effects if any , does a classroom model that allows for more flexible seating have on students' propensity to engage in cooperative activities like talking to one another and learning from one another. Lastly , from both the students' and the teacher's points of view , how does flexible seating affect the overall classroom experience ?

Therefore , this article contends that in order to achieve a measurable improvement in collaborative behaviors , it is necessary to strategically deploy flexible seating rather than just provide various furniture. This is because these arrangements allow interaction and foster physical facilitation



2.Literature Review:

New pedagogical tenets that place a premium on student agency and the holistic aspect of learning are promoting rethinking of the conventional classroom defined by rows of immovable desks. Because of this change, there has been a rise in the popularity of flexible seating which gives students more freedom in where and how they study by providing them with a selection of sitting options. Examining prior empirical studies on the impact of flexible seating on two crucial outcomes , focus on task behavior and collaborative behavior in a second grade intermediate classroom , this literature review delves into the theoretical foundations , specifies the essential factors and analyzes the topic.

Students Centered Learning theory which states students learn best when they are actively involved in their own education is foundational to the implementation of flexible seating. An important theoretical paradigm in this context is Self – Determination Theory(SDT) (Deci & Ryan, 2000) which states that satisfying three basic psychological needs , autonomy , competence and relatedness , supports intrinsic motivation and optimal functioning. By giving students more control over their physical learning space , flexible seating meets the desire for autonomy in a direct way and encourages greater involvement and participation on their part. Students can improve their competency by choosing a seat the helps them concentrate better , for example , they can choose a wobble stool that allows them to move about. According to Deci and Ryan (2000) when people gather on floor rugs or at low tables, it's simpler to break down physical boundaries and connect with others which in turns fosters a sense of relatedness.

At the same time, research into the effects of physical space on education has been going strong for some time. The classroom's layout is more of a “ third teacher “ than a blank slate , it has the power to encourage or discourage certain mental and behavioral changes in students. The goal of naturalistic learning environments is to provide students with a less institutionalized and more exploratory experience by incorporating aspects of comfort and freedom. According to Vygotsky (1978) , learning is an





فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



active process where knowledge is built via experience and social negotiation. This matches with constructivist concepts. A constructivist method is physically embodied in a flexible classroom that offers diverse areas for solitary, partnered and group work. According to Vygotsky (1978), it theoretically supports both individual cognitive processes and collaborative knowledge production by providing the zones needed for scaffolding and peer-to-peer learning.

The important factors need to be identified in order to study its effects. When people talk about “flexible seating” they’re really referring to a wide variety of alternatives to the more conventional office chairs and desks. Common examples include low tables that are ideal for collaborative projects, standing workstations, bean bags and floor rugs that provide low-to-the-ground comfort and seats or stools that allow controlled movement. Choice, movement (the capacity to rock, sway or change position without disruption) and comfort (physical well-being that lowers distractions caused by discomfort) are the key elements that link these possibilities (Erwin et al., 2013). In educational research, direct observation is usually used to operationalize the dependent variable Focus-On-Task Behavior. A student’s level of visual engagement with their work (e.g., writing, reading or discussing the topic) or their absence of certain off-task behaviors (e.g., looking around the room, talking to peers about unrelated subjects or leaving their seat unnecessarily) can be measured (Godwin et al., 2016). Collaborative behavior is also evaluated by counting interactions like how often and for how long students help one another with schoolwork, how well groups discuss topics (e.g., how many people contribute to the conversation that are directly related to the topic at hand, how often members engage in exploratory speech) and how well small groups manage to include everyone (Merritt et al., 2017).

There is mounting, if inconsistent, evidence from earlier empirical studies that flexible seating is beneficial. Flexibility in seating arrangements is positively correlated with engagement and mobility, according to multiple research. One example is a study conducted by Erwin and colleagues (2013). They discovered that when primary school classrooms had different seating alternatives, students were much more engaged and spent far less time sitting. Students’ improved concentration on schoolwork was a direct result of their capacity to control their mobility needs, according to the authors. This is in line with findings showing little exercise can activate brain regions necessary for prolonged focus (Erwin et al., 2013).

Research has demonstrated that the physical layout of a classroom significantly impacts the results of student collaboration and communication.



According to Merritt et al. (2017) students were more likely to engage in meaningful conversations and shared more ideas in classrooms that used non-traditional seating arrangements such clustered tables or soft seating spaces rather than typical row configurations. Students felt more connected to one another and were able to participate more fairly since the design prompted them to face each other and talk. According to Merritt et al. (2017) , collaborative communication can be enhanced in more relaxed settings, such as bean bag circles or rugs because people feel more comfortable participating to the conversation.

The missing piece of this body of work must, nevertheless , be filled. A noticeable absence of research pertaining to the second grade intermediate level is evident , in contrast to studies conducted in early elementary (K-1) and upper elementary, middle grades. At this special stage of development , students are moving from reading for comprehension to reading for understanding and they are making great strides in strengthening their executive function abilities such as the ability to focus for long periods of time and control their own behavior. Differences in developmental stages mean that kindergarten results might not be generalizable while investigations including higher grades might necessitate more involved group projects. Godwin et al. (2016) note that some research presents contradicting findings such as the possibility that the environment can become distracting in the absence of clear routines and procedures or that the novelty of choice can initially lead to more off-task behavior. This highlights the importance of doing more focused studies in second grade classes to learn how flexible seating impacts the unique academic and developmental goals of this age. Consequently, it is reasonable to conduct this study to find out whether flexible seating works and, if so , how to apply it in a way that promotes focus and collaboration among intermediate-level children in second grade by establishing defined routines.

The traditional paradigm of learning as an individual activity is giving way to a more collaborative one in today's classrooms. There has to be a shift in the way students sit in the classroom if we want them to pay attention and actively participate in the learning process (Harvey & Kenyon, 2013, p.3). The use of flexible furniture and adaptable classroom layouts promotes active participation from students. When the body is not moving , the brain is not actively working and students stop moving about and learning stops happening (Harvey & Kenyon, 2013, p.3). Modern classrooms benefit from classroom flexibility because it enables students to work in collaborative groups, which is a frequent practice in today's schools. Students are able to physically rearrange their seats in a flexible learning space



to better suit their individual needs.

“That the type of learning space can influence creative thinking , add excitement for both the student and instructor and enhance teaching and learning experiences” (Sawers, Wicks, Mvududu , Seeley, & Copeland, 2016, p. 26) is consistent with prior research. There will be more room for people , information, furniture and artifacts in “future learning spaces” (Beard & Wilson, 2013, p. 97). One emerging practice that has the potential to reduce student disruptions is the use of flexible seating arrangements in the classroom.

3. Methodology

A. Research Design

A mixed –methods action research strategy will be utilized in this investigation. Given that action research is an iterative , reflective process that aims to improve practice and student outcomes by addressing real world problems within one’s own educational context , it is an appropriate strategy for a practical classroom teacher (Mertler, 2020). The teacher – researcher can adjust the intervention according to the current findings thanks to this design’s iterative planning , doing, watching and reflecting phases. Data triangulation or the use of data from numerous sources to confirm and enhance understanding is made possible by the mixed methods component which is vital (Creswell and Creswell, 2018). This study aims to measure changes in behavior and provide rich contextual insights into how and why flexible seating influences focus and collaborative in this specific second grade classroom. It will do this by combining quantitative data (e.g. time– on–task tallies) with qualitative data (e.g. teacher journals , student interviews). This method delves further than just finding an effect , it aims to comprehend the participants’ actual encounters in the novel setting.

B. Participants and Setting

Participants : One secondary school classroom in a medium– sized suburban school district will serve as the research site for this second– grade intermediate case study. Twelve females and ten males ranging in age from thirteen to fourteen make up the class of twenty– two. Two children have reading and attention related Individualized Education Plans (IEPs) while three students are formally recognized as ELLs at an intermediate proficiency level.

Setting and Context : The room itself is a typical classroom with the usual layout , lighting and heating , ventilation and conditioning. A conventional layout characterizes the classroom prior to intervention with groups of four desks arranged in a row facing the instructor’s desk and the front



whiteboard.

Indicative of a rather low socioeconomic position , about 45 percent of the school's students qualify for free or reduced -price lunch , making it a Title I school. Routines for both whole -group and individual work contribute to the already excellent classroom climate. Informally, the instructor has seen that students lose interest when they are required to sit down and work alone for lengthy periods of time and that participation is typically unequal in group projects. Because of this classrooms are ideal places to study the effects of environmental on these dynamics.

C. Procedure and Timeline

A clear baseline disciplined implementation and comprehensive data collecting will be achieved during the course of the study's three separate phases which will take place over the course of 10 to 12 weeks

Phase1 – Baseline Data Collection (Weeks 1–3) : Initial data on focus and collaborative behavior will be collected for three weeks before any modification are made. The standard workstation layout will be maintained throughout this stage. A distinct pre- intervention benchmark will be established by the teacher – researcher using the data collecting instruments (time- on- task observation charts , frequency tally sheets and journal notes) that are described below. Establishing this baseline is essential for making subsequent comparisons (Mertler, 2020).

Phase 2–Implementation and Training (Week 4) : During this special week students will learn about the different seating options and work together to build a new classroom culture centered on them. Students will be introduced to the new furnishings (see Table 1) at this session.

“Choose a spot where you can do your best thinking” “Use a voice level that matches your workspace ,”and “Take care of all our materials” are just a few examples of the rules and expectations that the instructor will help students co -create through activities. As an example, students may be asked to “try a wobble stool for math , try a couch for silent reading” to demonstrate their ability to move between different areas and test out various solutions for various jobs. Applying the ideas of Self- Determination Theory directly this procedure promotes autonomy while guaranteeing a structured framework (Deci & Ryan, 200).

Phase 3– Intervention and Ongoing Data Collection (Weeks 5–10) : We will completely implement the model of flexible seating. At the start of each day students will choose their learning block position as the day goes on and assignments change , they will have the chance to switch spots. During this six -week period , the teacher- researcher will persistently gather all quantitative and qualitative data. In keeping with the iterative



فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م

nature of action research , short whole class reflections can be organized to collect student feedback and make small improvements to methods.

Table 1: Flexible Seating Options Introduced

Seating Type	Quantity	Intended Purpose
Wobble Stools	6	For desks, allows for movement while working.
Bean Bag Chairs	4	For independent reading or quiet work.
Floor Rugs & Cushions	1 large rug, 8 cushions	For group work or independent work on the floor.
Low Rectangular Tables	2	For collaborative group work (seated on cushions).
Standing Desks	3	For students who prefer to stand while working.
Traditional Chairs	6	Remaining option for those who prefer them.

D. Data Collection Instruments

We will gather data from multiple sources to make sure it's valid and that we comprehend everything.

1-Quantitative Data:

a. Time – On Task Observations: The brief time sampling will be carried out using a structured observation chart. A researcher would randomly scan the room and count the number of students who are on-task or off- task based on pre –defined behaviors three times during a 30 minute lecture (e.g., at 10, 18, and 25 minutes) (see Table 2). This will be repeated three times weekly for the same class session (for instance, literacy block) in both the baseline and intervention periods.

b. Frequency Counts of Collaborative Acts: For a 15 minute session , the researcher will observe a group of four students participating in predetermined collaborative tasks (e.g., doing math problems in pairs or science inquiry groups). Using a tally sheet , the researcher will keep track of how often certain observable behaviors occur during the activity (see Table 2).

Table 2 : Operational Definitions for Quantitative Measures

Variable	On-Task / Collaborative Behavior	Off-Task / Non-Collaborative Behavior
Focus	Eyes on teacher or work, writing, reading assigned material , raising hand, on - topic conversation with peer.	Gazing off, playing with objects, talking off- topic, out of seat without reason , distracting others.
Collaboration	"Verbal help" (e.g., "Here's how I did it") , "Non- verbal help" (e.g., pointing to a peer's work), "Explaining an idea," "Active listening" (nodding , eye contact).	"Working in isolation," Arguing/disagreeing without resolution," "Dominating conversation," "Off-task behavior in group."



2. Qualitative Data:

a. Teacher- Researcher Journal : Every day, I shall jot down random thoughts and observations in a notepad. Typically, the researcher will take notes on the classroom climate any unforeseen difficulties (like fights over popular seats) any pleasant surprises like a normally reserved student flourishing in a different place and overall thoughts on the sessions' progression and translations

b. Student Surveys / Interviews : Just before the intervention ends , a quick survey will be given to the entire class. In order to delve deeper into the experiences and preferences of four students, we will conduct brief , casual interviews with them.

c. Photographs : Photos of the classroom environment and students interacting during group projects will be taken with the parents' consent. They will record the nature of student interaction and collaboration in a non – intrusive way and serve as evidence of the implementation.

Sample Student Survey Item

How did your new seating choices help you focus on your work?
• (Very Sad Face) - It was harder to focus.
• (Neutral Face) - It was the same.
• (Happy Face) - It was a little easier to focus.
• (Very Happy Face) - It was much easier to focus!

E. Data Analysis Plan

An analysis strategy that incorporates both forms of data is necessary for the **mixed-methods design**.

1. Quantitative Analysis : Describing the data will the quantitative analysis of the observation charts and frequency counts. Each observation period's on task behavior percentage will be computed. Tables and bar chart will used to compare the data from the baseline and intervention phases visually. This will indicate the average percentage of on- task time and the average frequency of collaborative acts before and after the implementation , respectively . If there are any changes in the desired behaviors , this easy before and after comparison will show it numerically.

2. Qualitative Analysis : A method called theme analysis will be used to examine the qualitative data (Braun & Clarke, 2006). Some examples of first codes that will be read and reread in order to identify them include "movement helps focus," "prefers quiet corner," and "difficulty choosing" from the student interviews and instructor journal entries. Grouping these codes into possible themes (such as "Autonomy and Motivation, " Physical Comfort and Focus, " Challenges of SELF-Regulation" is the next



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السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



step. Visual evidence of active collaborative of particular difficulties can be found in the images which will be examined to support these themes. Providing the necessary background for the numerical data , the last stage is to interpret these themes in order to construct a unified narrative regarding the impact of the flexible seating environment.

In the end, we will use triangulation to get a whole and valid picture of the research topic by comparing and integrating the quantitative data (the what) with the qualitative themes (the why and the how) (Creswell & Creswell, 2018).

To determine the effect of flexible seating intervention on student focus and collaborative behavior , the quantitative data collected during the three weeks baseline

Table3: Descriptive Statistics for on –Task Behavior and Collaborative

Variable	Phase	N	Mean	Std. Deviation
On-Task Behavior(%)	Baseline	9	74.22	3.81
	Intervention	18	86.50	2.95
Collaborative Acts (Frequency)	Baseline	9	8.56	1.42
	Intervention	18	14.22	1.86

Note :N represents the number of observation sessions(3 per week for 3 weeks baseline , 3 per week for 6 weeks intervention).

The descriptive statistics indicate a positive change in both dependent variables following the intervention. The mean percentage of on –Task behavior increased from 74.22% during the baseline phase to 86.50% during the intervention phase. Similarity, the mean frequency of collaborative acts per session rose from 8.56 to 14.22. The standard deviations suggest that the data points were clustered closely around the mean in both phases indicating consistent measurement.

Table 4 :Paired Sample T- TEST FOR On –Task Behavior and Collaborative Acts

Paired Variable	Mean Difference	STD, Deviation	t-value	df	p-value(Sig.2-tailed)
Pair1: On-Task Intervention-On-Task Baseline	12.28	4.50	8.18	8	< .001
Pair2: Collaborative Intervention-Collaboration-Baseline	5.66	2.00	8.49	8	< .001



The results of the Paired – samples t– test revealed that there was a statistically significant increase in both on – task behavior and collaborative acts from the baseline phase to the intervention phase. On –Task Behavior the increase of 12.28% was statistically significant , $t(8) = 8.18$, $p 001$. this is indicated that the probably the result occurring by chance is less than 0.1%. In Collaborative Acts the increase of 5.66 acts per session was also statistically significant , $t(8) = 8.49$, $p 001$.

4.Results And Findings

A. Presentation of Data

This report presents the data obtained throughout the ten weeks of the action research project in an unbiased manner. Structured observations provided quantitative data while the teacher–researcher notebook , student surveys and images provided qualitative data. The results are grouped according to the research questions. Rather than providing an analysis or interpretation of the data , this section simply states what the data indicates.

B. Findings Related to Focus (Research Question 1)

After flexible seating was implemented, there was a noticeable change in on – task behavior, according to the quantitative data obtained by brief time sampling. With students seated at regular desks during the first three weeks of the study, the average on–task percentage for all classes was 74.2%. With an average gain of 12.3 percentage points , the on– task rate reached 86.5% over the six week intervention period. This overall change is displayed in Figure 1.

Subsequent examination of the observational data according to topic or activity type revealed substantial differences in the extent of change. The rise in the average on–task rate from 68% to 89% was particularly pronounced during the autonomous reading and writing blocks , indicating a considerable change in behavior. Collaborative work periods showed a moderate improvement, going from 77% to 88%. With only a tiny increase from 78% to 81%, the on –task rate showed the slightest shift during whole– group direct teaching. According to an entry from Week 6 of the teacher–researcher log which is anecdotal, “During math lecture at the carpet , fidgeting and side–talk are still prevalent, similar to baseline.”, this variance is supported. The room becomes visibly more attentive and silent when students move to their designated spots for worksheet work.

C. Findings Related to Collaboration (Research Question 2)

Throughout the allotted group activities , we counted how often certain observable collaborative acts occurred. There were an average of 8.5 collaborative acts per 15 minute observation session during the baseline pe–



فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



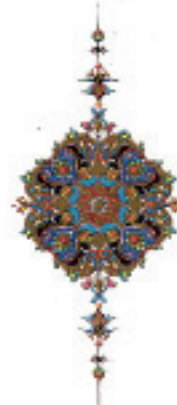
riod. In the course of the intervention , this average jumped to 14.2 acts of collaboration each session.

These quantitative increases are contextualized by qualitative data from the teacher– researcher journal which demonstrates the nature of the relationships. I “watched Maria and Jake at the low table” in my Week 7 journal post. Somehow, Jake couldn’t solve the math issue. Without being asked , Maria moved her whiteboard over and started to describe her plan , counting out loud with her fingers. This can be described as “explaining an idea” as well as “verbal help.” According to another entry, the setting encourages teamwork just by looking at it. Instead of being compelled to turn around in their desks , students are permitted to face each other at the rug and low tables. In an act of selfless assistance that had nothing to do with schoolwork , I witnessed Sam assisting Liam in finding a cushion and bringing it to their designated spot on the rug. Photos that capture students hunched over a small table working on a shared project or cuddled up with a book lend credence to these claims.

D. Findings from Perceptions

Student Perceptions: The majority of students surveyed after the intervention thought the new seating arrangement was great. When asked, “How did choosing your own seat help you focus on your work?” eighty six percent of the students or 19 of the 22 , chose a favorable response, such as “a little easier” or “much easier.” Three students or fourteen percent , said they didn’t notice any change and not a single one said it was tougher to concentrate. Students’ preferences for certain seating types were strongly conveyed in informal conversations. “I enjoy the wobble stool because it allows me to sit up straight,” one pupil said. I can wriggle and yet hear you. Another student said, “The bean bag is my favorite for reading because it’s cozy and I can get really into my book.”

Thoughts on Logistics and Management from a Teacher – Researcher Perspective: The flexible seating model’s actual application was extensively documented in the journal. In the first week of Phase 3, the management of high demand items was identified as a significant logistical difficulty. “Full choice’s first two days were utter mayhem,” one entry said. The wobbling stools and bean bags caused a fight to break out. The first come , first served approach was clearly broken. As a result , a new method of administration was developed in collaboration with students. This system included a weekly rotating “choice card” system that ensured each student would get a chance to sit in their favorite place. A subsequent item in Week 8’s diary noted, “The choice card system has been a success” following the system’s implementation. Students are more open to trying



different areas when their initial choice is taken, and the number of arguments has reduced to nearly zero. The most important thing was to make sure the decision framework had structure. Students spent an estimated one to two minutes less time in class switching desks since group work transitions were so smooth because they were already in designated collaboration spaces.

Summary of Research Questions and Corresponding Data

Research Question	Data Presented	Figure/Table	Type of Data
1. What is the effect on student focus?	Average % of on-task behavior during baseline vs. intervention.	Figure 1: Bar chart comparing on-task percentages.	Quantitative
	Supporting text in the findings.	Quantitative & Qualitative (anecdotal)	Variation in focus by activity type (direct instruction vs. independent work).
2. What is the effect on collaborative behaviors?	Average frequency of collaborative acts per session during baseline vs. intervention.	Figure 2: Bar chart comparing frequency of acts.	Quantitative
	Nature and quality of the collaborative interactions.	Supporting text with anecdotal journal entries.	Qualitative

The results section presents both quantitative and qualitative analysis with these issues at its core. Consistent with the answers to the first two questions, we also address a third , implied question concerning the views of both students and educators.

5. Discussion

The results of using a flexible seating strategy in an intermediate classroom of second graders were substantial and complex. This section delves into the practical consequences of the findings, discusses the study's shortcomings, and offers suggestions for future research.

A. Interpretation of Results

The outcomes anticipated by the intervention were met , according to the results. A strong strategy for improving engagement and peer connection in a second grade context could be flexible seating , as evidenced



فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



by the observed increase in on – task behavior and the frequency of collaborative acts. These results provide substantial credence to the literature review’s Theoretical Foundations. There is a perfect harmony between Self – Determination Theory with the expansion of student agency and choice (Deci & Ryan, 2000). The intervention probably increased intrinsic motivation which showed as a greater desire to focus and participate in activities , by satisfying the demand for autonomy. Additionally, the significant enhancement in cooperative behaviors exemplifies the practical application of Vygotsky’s (1978) theory of social constructivism. As predicted by Vygotsky’s theory , the classroom transformed into a community of learners who actively produced knowledge together due to the physical environment’s design which included low tables and common floor spaces , naturally facilitating peer – to –peer discourse and scaffolding.

Nonetheless , there were some significant Surprises and Contradictions and the consequences weren’t always good. The fact that there was just a small increase in concentration during whole–group direct instruction stood out the most. That flexible seating can solve all attention problems is an oversimplified perspective and this disproves it. Looking back at the research on classroom design helps to shed light on this subtlety , although the setting was conducive to student–centered , constructivist work , it provided less natural support for an activity that was mostly focused on the teacher. The necessity for explicit instruction of decision making is also brought to light by this finding which is a crucial component of implementation. The ability to self–regulate in the face of novel distractions may not yet be present in all pupils , especially those in second grade. The option to sit on a bean bag throughout class was more of a diversion than an aid for these children at first. This shows that students’ concurrent development of self –regulation and metacognitive skills is equally as important as the furniture when it comes to the success of flexible seating.

B. Implications for Practice

This study provides second grade teachers with some useful suggestions for implementing flexible seating. First things first, non– negotiables include clear, jointly – created procedures and expectations. The first disputes over popular seats show how disagreements can



arise when there is no framework for making choices. To guarantee fairness and reduce disagreements , a system like the study's rotating choice cards can be implemented. Secondly, instructors need to demonstrate and instruct students on the proper way to sit for concentrated work in each setting. A wobble stool could be useful for "practicing" controlled movements rather than uncontrolled swaying which could be a distraction. The next piece of advice is to make sure every student has their own "home base", a designated cubby or mailbox, so they can feel organized and at home. Last but not least , rather than seeing implementation as a static event , educators should think of it as an iterative process. The key to success in the long run is being flexible enough to change systems , re – teach expectations and constantly reward good decisions.

C. Limitations of the Study

In order to put the results in perspective , it is necessary to recognize a number of limitations, even though the results are encouraging. To begin, the results may not be applied to different contexts or student groups because the study only used a single classroom and a small sample size (n=22). Secondly , it is not known whether the advantages would be maintained throughout a full academic year and the fact that the intervention was just 6 weeks long makes one wonder how long the effects will last. The arrangement's novelty may have affected behavior. Third, when collecting and interpreting qualitative data , especially in journal articles , there is a great deal of room for researcher bias when you are both a teacher and a researcher. Last but not least, the Hawthorne Effect probably had a part to play , pupils might have altered their conduct just because they were aware that new seating arrangement was the subject of an observational research. By placing the study's conclusions within reasonable bounds , acknowledging these limitations enhances its trustworthiness.

D. Suggestions for Future Research

Future research can benefit from this study in multiple ways. To increase the results' external validity, a bigger study involving several grade levels and classrooms is needed. When the initial excitement of flexible seating has faded , we need longitudinal studies to see how it affect students' conduct and test performance in the long run. It



فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



would be extremely helpful for practitioners if there was a targeted study examining the effects of flexible seating on pupils with attention deficit hyperactivity disorder (ADHD) , autism spectrum disorder (ASD) or any other unique learning need. Lastly, a quasi –experimental study with a control group might be used to further isolate the influence of flexible seating from other variables in future research.

6- Conclusion

The purpose of this research was to examine how a second – grade intermediate classroom’s flexible seating arrangement affected kids’ ability to concentrate and work together. Based on the results , the thesis can be restated, students’ on – task engagement and meaningful peer collaboration are much improved by intentionally implementing flexible seating in conjunction with organized routines and explicit teaching in self– regulation. The results show that the physical learning environment is not just a background , it actively shapes student behavior and social dynamics , helping them become more independent and helpful to one another as learners.

The primary results of the study give light on the issues posed by the research topics. The quantitative data showed that during the intervention period, there was a significant overall increase in on –task behavior , going from 74.2% at baseline to 86.5%. Although there was an improvement overall , it was most pronounced during the time students worked independently with very little change during period of direct instruction. This subtly emphasizes that student –centered activities are when flexible seating is most beneficial. When looking at the statistics , it was clear that the frequency of collaborative acts increased significantly , going from an average of 8.5 to 14.2 each session. Qualitative data showed that students’ behavior changed for the better as a result of the new setting , with more spontaneous requests for assistance , explanations and collaboration.

Ultimately, this study highlights an essential reality in education , The way a classroom is designed a deep expression of the educational philosophy. Embracing a layout that goes beyond rows of desks shows a genuine dedication to designing a room that values children’s mobility, independence and social interaction rather than just looking good. Although it is not an easy solution students are empowered to



become active agents in their learning journey when flexible seating is applied with aim and structure. It tests teachers' faith in their students' abilities to improve their own concentration and community building while also challenging them to reevaluate conventional methods of supervision. Creating classrooms that intentionally cater to these needs goes beyond just rearranging furniture.

It involves creating a climate that is positive , productive and powerful , allowing every student to discover their niche and succeed.

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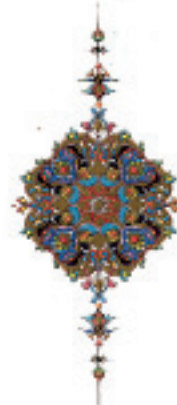
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فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)
السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م



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فصلية تُعنى بالبحوث والدراسات الإنسانية والاجتماعية العدد (٩)

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السنة الثالثة جمادى الأولى ١٤٤٦ هـ تشرين الثاني ٢٠٢٥ م