



LEARNING
EXPERIENCE
COLLABORATIVE
ESC REGION 12 + HUCKABEE

YEAR IN REVIEW

Focused on Student Engagement
November 2020

YEAR IN REVIEW

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Our “Year in Review” compiles the history, findings and future of our research and the LEx Collaborative, with a focus on the 2019-2020 academic year. In this edition, we are excited to share our most recent research data on flexible furniture, professional development and the impact these make on student engagement and academic outcomes. The findings are promising; however, there is much to learn and much more to share!

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Definitions of bolded words can be found in the glossary located on page 17

The education research team includes:

Baylor University Center for Astrophysics, Space Physics and Engineering Research (CASPER)

Augusto Carballido, Ph.D., Jorge Carmona Reyes, M.S., M.S. Ed., Brenda K. Davis, Ph.D., and Truell W. Hyde, Ph.D.

In partnership with

Huckabee, Education Service Center Region 12 and Midway Independent School District

WHO WE ARE

OUR STORY

A unique group of architects, educators, and researchers working together to make authentic advancements in education and instill a love of learning in all students.

In 2014, a partnership began between Huckabee, Education Service Center Region 12 and Baylor University to create the Learning Experience Collaborative. The LEx Collaborative, located at the Baylor Research and Innovation Collaborative (BRIC), conducts research at the intersection of professional development and the built environment to determine impact on student engagement and the learning experience. Additionally, the collaborative seeks to empower all stakeholders through immersive experiences, equipping them with data, research-based knowledge and access to a variety of professional services for increasing student engagement and success.

The collaborative is comprised of three primary focus areas: Learning Experience Laboratories (LEx Labs), Learning Experience Impact (LEx Impact) and Learning Experience Research (LEx Research).



Baylor Research & Innovation Collaborative
Baylor University, Waco, Texas

OUR FOCUS AREAS



LEx Labs is our core research facility. Located at the BRIC, it designed with students and educators in mind and is filled with flexible furniture, technology and other unique aspects of the built environment. LEx Labs is an incubation space where we research and explore the built environment and learning experiences. It also acts as a “flight simulator” for educators to test modern learning environments and concepts before introducing them to practice.



LEx Impact provides change management services focused on student engagement and empowerment. We act as your facilitator to invoke conversations between members of your team and introduce new mindsets, qualities and skills. LEx Impact employs a personalized approach to help you redesign learning experiences; deepen educator and student understanding of those experiences; and foster collaboration, creativity and reflection.



LEx Research works with school systems to collect data, evaluate the effectiveness of learning space and give insight into professional development needs for new and evolving learning environments. The research team has completed multiple pilot projects at the elementary level, as well as longitudinal studies focused on flexible learning environments. This research is foundational in establishing methodology and instrumentation that did not exist prior for this age group in modern learning components. The research team’s focus is grounded in the impact the learning environment has on student engagement and taking the research beyond control conditions to additional environments.

WHY WE ARE HERE

THE COMMON GOAL

The LEx Collaborative strives to improve student learning across Texas school districts by clarifying the concept of **student engagement** among elementary aged students. As experts on student engagement, the LEx Collaborative shares its expertise on how elementary aged students learn best through research data informing both the related **professional development** and the design of optimized physical space **as shown in Figure 1**.

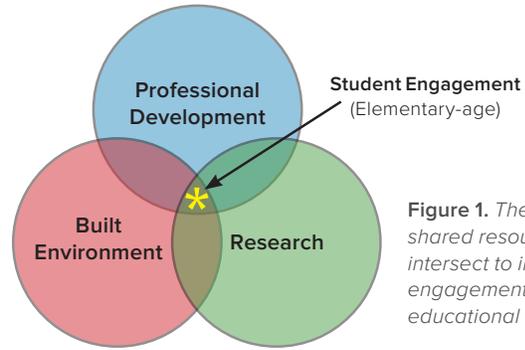


Figure 1. The collaborative shared resources and expertise intersect to increase student engagement and support the educational endeavor.

DESIGN BUILT ENVIRONMENTS

Huckabee architecture is focused on how the built environment (including the use of flexible furniture) can increase academic achievement as evidenced by improved student engagement. Research on the built environment in conjunction with existing professional knowledge enables Huckabee to make well informed decisions through robust designs for the evolving learning spaces required in the 21st Century.

PROFESSIONAL DEVELOPMENT

The educator plays an essential role in providing their students the necessary information and skills needed to adapt to changing learning environments. Research on student engagement enables the Region 12 Service Center to provide educators with timely and relevant professional development as well as support services that encourage student learning in flexible environments.

RESEARCH

Previous research has shown that the learning environment can impact student success in the classroom [2,4]. Baylor researchers seek to understand how the various components comprising the learning environment are related to student engagement and academic outcomes for elementary-aged students. The CASPER educational research group provides the LEx Collaborative valid and reliable research through an extensive and rigorous research process.

THE BUILT ENVIRONMENT (FLEXIBLE FURNITURE)



TRADITIONAL LEARNING ENVIRONMENTS:

The traditional classroom furniture used in most schools today was designed during the industrial economy of the 19th century. This furniture is characterized by rows of stationary desks

and chairs, sometimes even bolted in place. This traditional classroom environment enables teachers to deliver messages to large groups of students while controlling the pace, content and sequence of learning activities. However, traditional desks and chairs do not allow for student and teacher movement, despite recent changes in pedagogy that lean toward increased mobility, in the classroom.



FLEXIBLE LEARNING ENVIRONMENTS:

The **Flexible Learning Environment** is defined here as one using **flexible furniture**, i.e., furniture that provides and supports student choice of seating, workspace, location, comfort and peer interaction.

This environment supports the fostering of collaboration while empowering students to become builders of knowledge. As a result, students are able to easily move, reconfigure and partially-condense furniture over a short period of time in comparison to the time of a class period. *The initial goal of this project is to examine the manner in which a flexible built environment impacts student engagement and learning.*

THE LEX COLLABORATIVE CONDUCTS RESEARCH ON HOW BUILT ENVIRONMENTS PAIRED WITH PROFESSIONAL DEVELOPMENT AND TECHNOLOGY AFFECT STUDENT ENGAGEMENT AND ACADEMIC SUCCESS.

WHAT WE DO

RESEARCH DEVELOPMENT ACTIVITIES

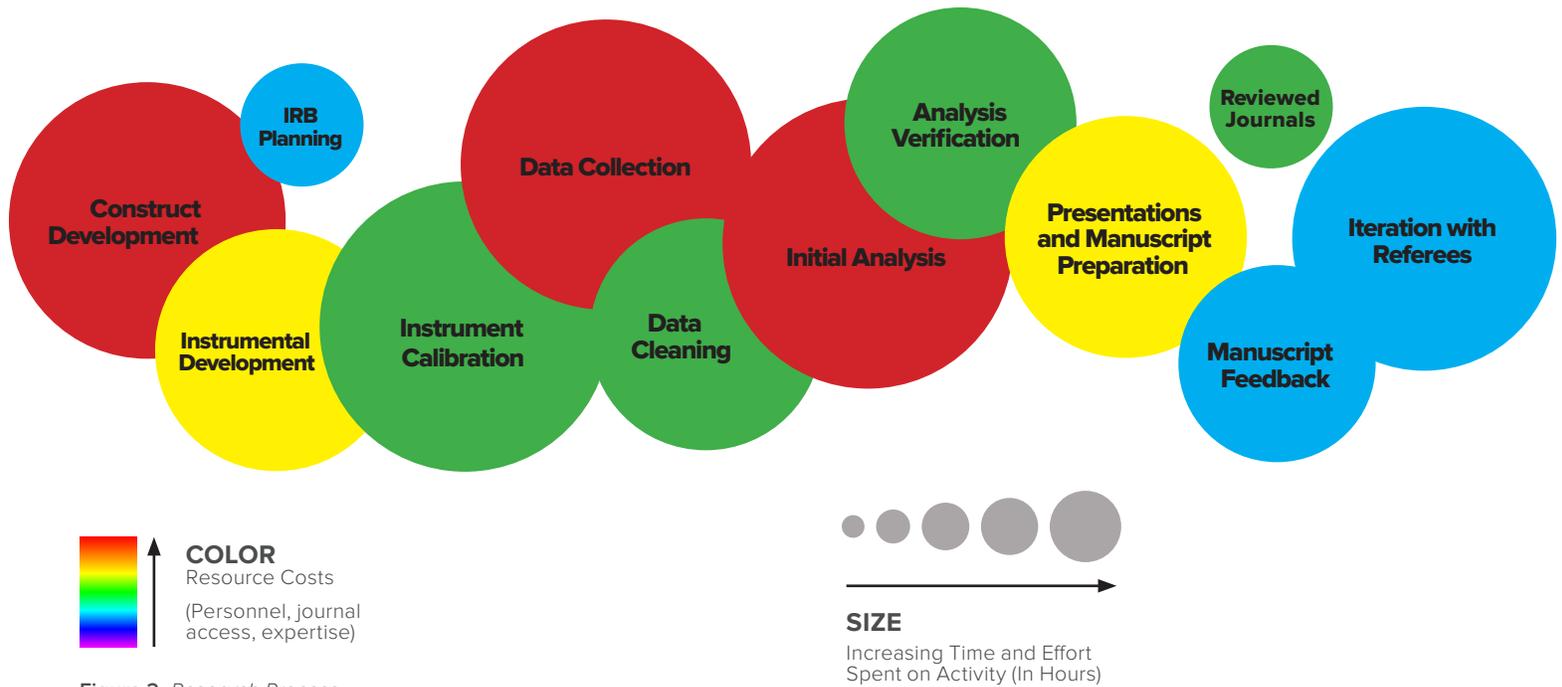


Figure 2. Research Process

Any high-quality research program requires researchers to follow a rigorous process adhering to the established standards necessary to build a foundation for “research based, evidence-based” research. When done appropriately, the data collected through such a study is valuable and critical to the success of all collaborative members.

The research development activities shown in Fig. 2 represent the primary steps which have been followed to garner the reliable and valid results from the studies described here.

The size of each bubble represents the amount of time and effort required for researchers to complete the activity while the color of each bubble represents the fiscal costs in terms of personnel and expertise as well as other hidden costs required.

As shown, in order to be successful, the research process takes a combination of time, energy, and funding and cannot be altered. For example, development of the **construct** required for this project was both a time intensive and high resource cost endeavor. Accordingly, researchers spent many months (and now years) developing the **construct** required for this investigation. Through an extensive literature review, consultations with experts and a series of initial **pilot / longitudinal studies**, the development of the **construct** produced the instruments and data collection mechanisms employed. Fortunately, once defined, the use of this **construct** in other studies is now possible.

WHAT WE DO

RESEARCH INSTRUMENT DESIGN AND OBSERVATION PROTOCOL

1. TEACHER REPORT MEASURE (FETS)

The Flexible Environment Teacher Survey (FETS) records teachers' perceptions on student engagement, technology use and use of the flexible classroom environment for five randomly selected students using a 4-point Likert response scale (Never, Sometimes, Often and Almost Always). The items were worded so respondents could indicate: "How often a child engages in the specified behavior in the classroom." The survey takes approximately 20 minutes to complete.

2. STUDENT SELF-REPORT

Children develop rapidly at the elementary school level physically, cognitively and socially. Due to developmental differences and readability among the age groups participating in the research, two student self-report surveys were developed: the FESS & the A-FESS.

FESS

The Flexible Environment Student Survey (FESS) records 3rd and 4th grade self-reported level of **student engagement**, perception of the use of technology for classwork and perception on the flexibility of the learning environment. It uses a 4-point Likert response scale and takes approximately 20 minutes to complete. For consistency of administration, students were required to complete the surveys during their computer class period (Fig. 3).

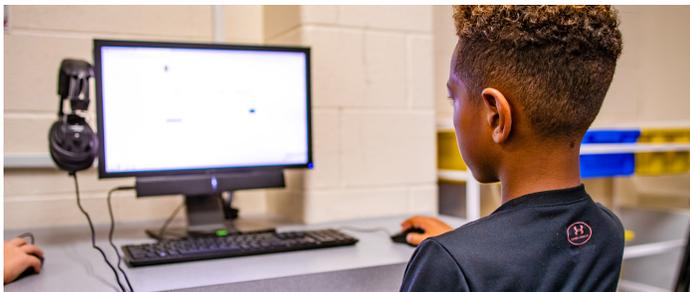


Figure 3: Students completing the FESS online survey

3. ADAPTED STUDENT SELF-REPORT

A-FESS

The Adapted-Flexible Environment Student Survey (A-FESS) was designed for students in 2nd grade. The A-FESS provides an optional audio play feature to account for reading ability and developmental differences in students and takes approximately 20 to 25 minutes to complete (Fig. 4).



Figure 4: Second graders completing the A-FESS.

4. CLASSROOM OBSERVATION FORM

All self-report instruments (FETS, FESS and A-FESS) provide a quantitative perspective; however, classroom observations are used to increase the scope of the research by providing a qualitative perspective on **student engagement**.

Classrooms are observed every other week by trained observers who have teaching experience. During observations, three students are randomly selected per classroom and continuously monitored throughout each observation (for a total of 20 minutes).

This observation instrument measures manifestations of the Texas adopted ITES Standards that include 21st Century Framework applied skills (specifically the 4Cs), which are strong indicators of life-long learners, who are inquisitive and learn at a deep level.



ACTIVITY CHECK

During the planned activity check, there were 10, one-minute intervals. During the intervals, the observer tallied the number of students who exhibited off-task and on-task classroom behavior.



OBSERVED ENGAGEMENT

During observations, the observer randomly selected three students and recorded their behaviors following a 10-minute observation period. **Constructs** to be observed included: autonomy, competence, general environment, participation, sense of belonging, positive relationships and reflection. The use of 4Cs instruction were also observed: communication, collaboration, critical thinking and creativity.



GENERAL OBSERVATION

The third part of the observation form required the observer to make observations regarding the general environment of the classroom, including work surface, seating arrangement and furniture choice.

WHAT WE HAVE DONE

DATA COLLECTION AND ANALYSIS

Using the research development process described above and the research construct / instruments now in place, data collection and instrument calibration on the student engagement process is well underway. As data is gathered at each step of the process (Pilot Study I, Pilot Study II, Longitudinal 1.0 and Longitudinal 2.0) the resulting data is strengthened, adding credibility to our findings. The use of such a rigorous research process in every step of the study provides statistically relevant data and the ability to confirm that the **construct** and instruments developed are working correctly. When combined with the results of an extensive literature review and gathered expertise from stakeholders in the field and research team members this allows measurement of the variables of interest (Fig.5)

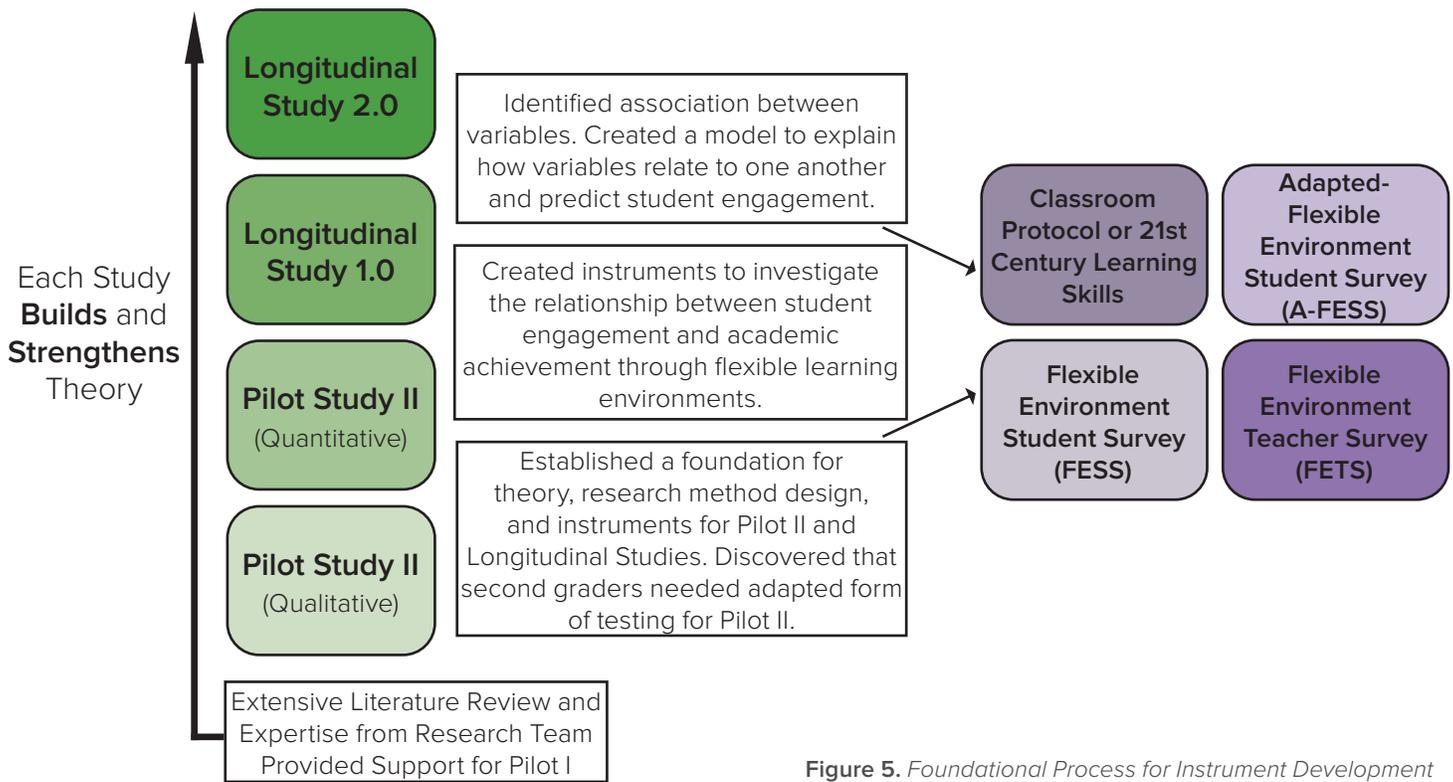


Figure 5. Foundational Process for Instrument Development

PILOT STUDY I

The data collected as part of **Pilot Study I** established the foundation for our theory and defined flexible furniture, informing research method design and instrument development. Each of these was necessary in order to compare traditional classrooms with flexible classrooms. The results from the literature review and the data collected in Pilot Study I, when combined with the expertise of participating team members provided support for the creation of our elementary school **student engagement** hypothesis and the four instruments described allowing measurement of the variables of interest for Pilot Study II and Longitudinal Studies 1.0 and 2.0 (Sample size: N = 42 students).

PILOT STUDY II

Pilot Study II opened the investigation into the relationship between student engagement and academic achievement for students in flexible learning environments. In this case, students in elementary grades 2nd through 4th were observed over a span of 16 weeks (N=301 students). The instruments employed were designed to allow researchers to analyze elementary student engagement across each of these measures allowing triangulation of the data. Both the teacher and student report surveys included a battery of assessments measuring student engagement, as well as perceptions of environment and technology in the classroom. Pilot II also allowed researchers to continue to develop the student engagement instrument, evaluate the need for **professional development**, and examine and analyze student data in preparation for the Longitudinal Study 1.0. Finally, Pilot Study II produced the data required to estimate the sample size necessary for Longitudinal study 1.0.

WHAT WE HAVE DONE

LONGITUDINAL STUDIES

FIRST LONGITUDINAL STUDY (LONGITUDINAL 1.0)



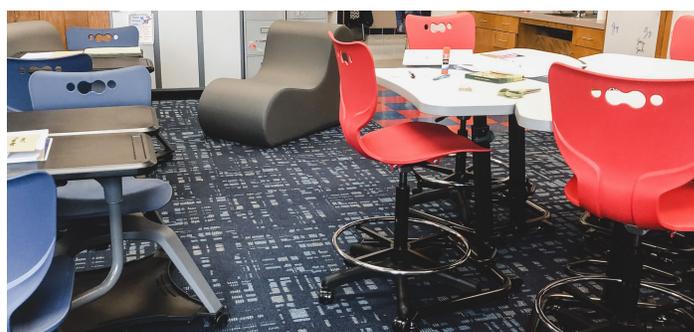
Figure 6. Professional development course led by ESC Region 12.

The first longitudinal study (LS) was fully executed during the 2019-2020 academic school year. Thirty classrooms from the participating School District were part of this study. Of these, 15 classrooms were assigned to the **intervention** group, and thus received flexible furniture. The 12-hour-long **professional development** course, developed by Education Service Center Region 12 (Fig. 6), was also executed at this time. During the study, a total of approximately 600 students from 2nd to 4th grades were observed using the furniture available to them (either flexible furniture in the case of the **intervention** group, or traditional furniture in the case of the **control** group) for the entire academic year. The LS was designed to identify different variables, as well as the relationship between them, allowing

the ability to predict the sense of engagement in the students. Additionally, some 30 teachers from two participating school district elementary schools also participated in the LS. Overall, the LS is to measuring the changes in **student engagement** when students are exposed to a flexible learning environment.

SECOND LONGITUDINAL STUDY (LONGITUDINAL 2.0)

Longitudinal Study 2.0 (currently underway) seeks to determine the relationship between flexible furniture and academic achievement / **student engagement** among elementary students. The data collected will help identify any long-lasting effects of the interventions implemented in previous (i.e., longitudinal 1.0) studies. This is of great importance at the current time, given the potential negative impact produced by the Covid-19 pandemic. The manner in which this will be accomplished is through direct comparison of the data collected during the longitudinal 1.0 and longitudinal 2.0 studies. This analysis will identify differences measured between the two studies and hopefully allow identification of the pandemic effect. Unfortunately, this analysis will be complicated by the issue that the flexible furniture was removed from the majority of classrooms in order to comply with social distancing requirements. Even so, this may well be the only data of its kind bolstered by an ongoing direct research study and as such, should be highly valuable to future research on **student engagement** during large scale disruptions.



Intervention classrooms, three photos above.

WHAT WE ARE LEARNING



RESULTS FROM FIRST STUDIES

PILOT I

- Provided the hypothesis required to examine student engagement at the elementary school level
- Provided the structure required to propose a model for student engagement

FLEXIBLE LEARNING ENVIRONMENTS HAVE THE POTENTIAL TO ENHANCE EFFECTIVE TEACHING, INCREASING STUDENT ENGAGEMENT.



PILOT II

- Verified proposed research design
- Verified and measured both the reliability and validity of developed instruments
- Built rapport with stakeholders
- Provided an understanding of the data needed
- Provided information on the quality of questions used in the instruments
- Provided information about the amount of additional professional development required to maximize the benefits associated with flexible furniture and enhanced learning



FLEXIBLE LEARNING ENVIRONMENTS PROVIDE ADDITIONAL SUPPORT FOR STUDENT CHOICE, ENHANCING STUDENT ENGAGEMENT

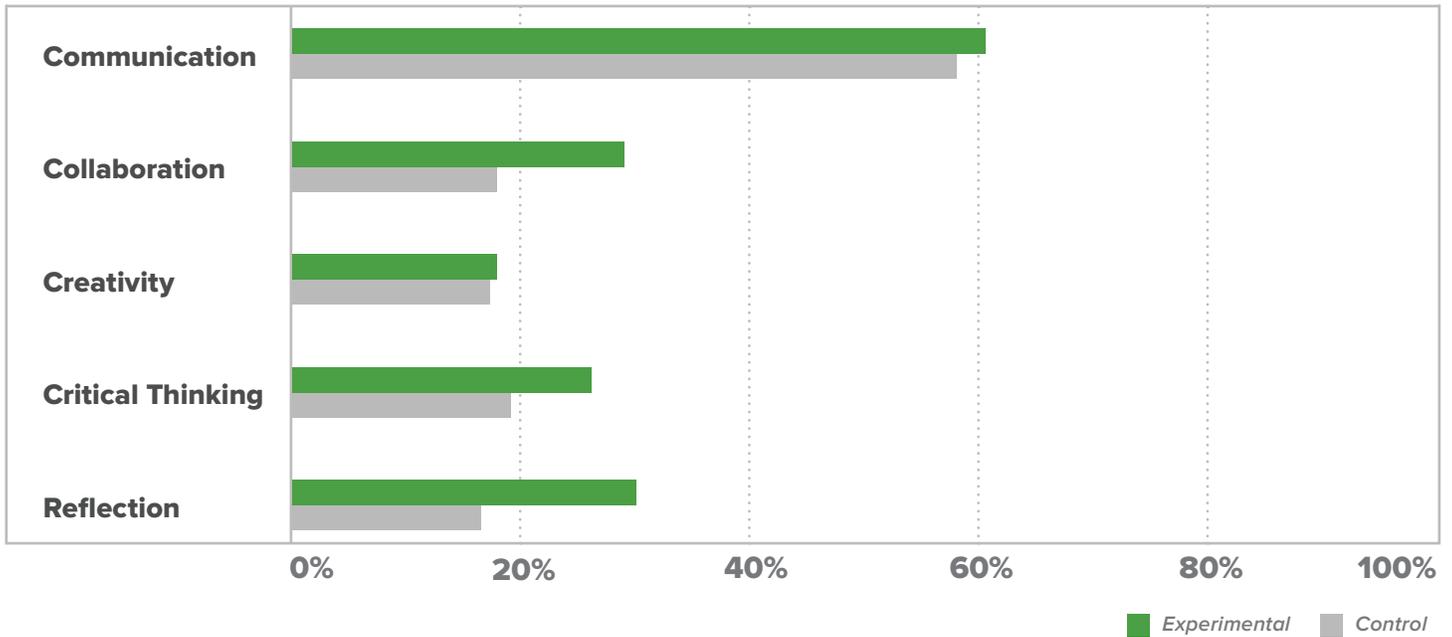
LONGITUDINAL 1.0



As shown in the figure below, students demonstrated greater focus on the “**21st Century Framework Applied Skills**” in flexible classrooms.

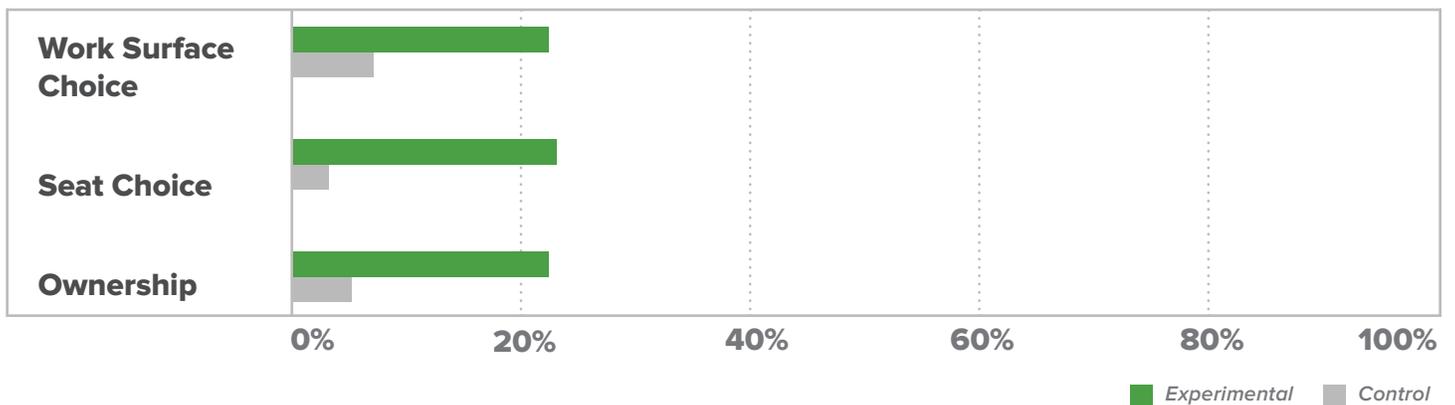
OBSERVATION INSTRUMENT

The 4Cs and Reflection Fall 2019



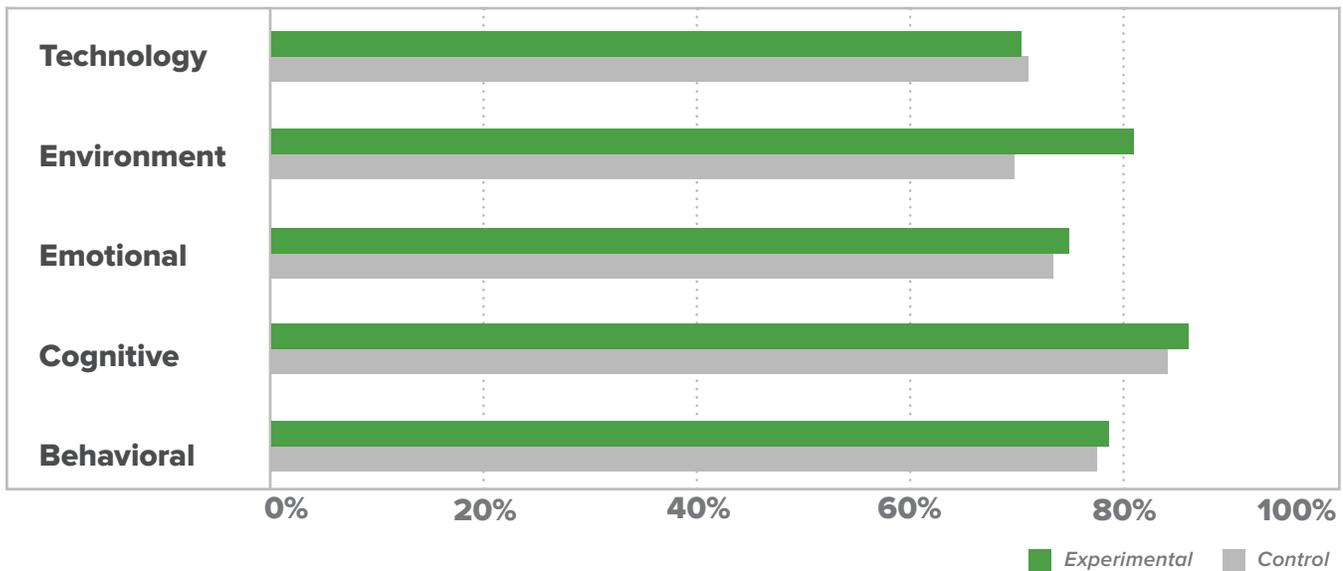
During classroom observations, students in flexible classrooms were shown to have more opportunities to take ownership of their environment through student choice than did their peers in traditional classrooms.

**Student Engagement Longitudinal 1.0
FETS 2019 Fall Semester Data**



➤ FESS

FESS 2019 Fall Semester Data

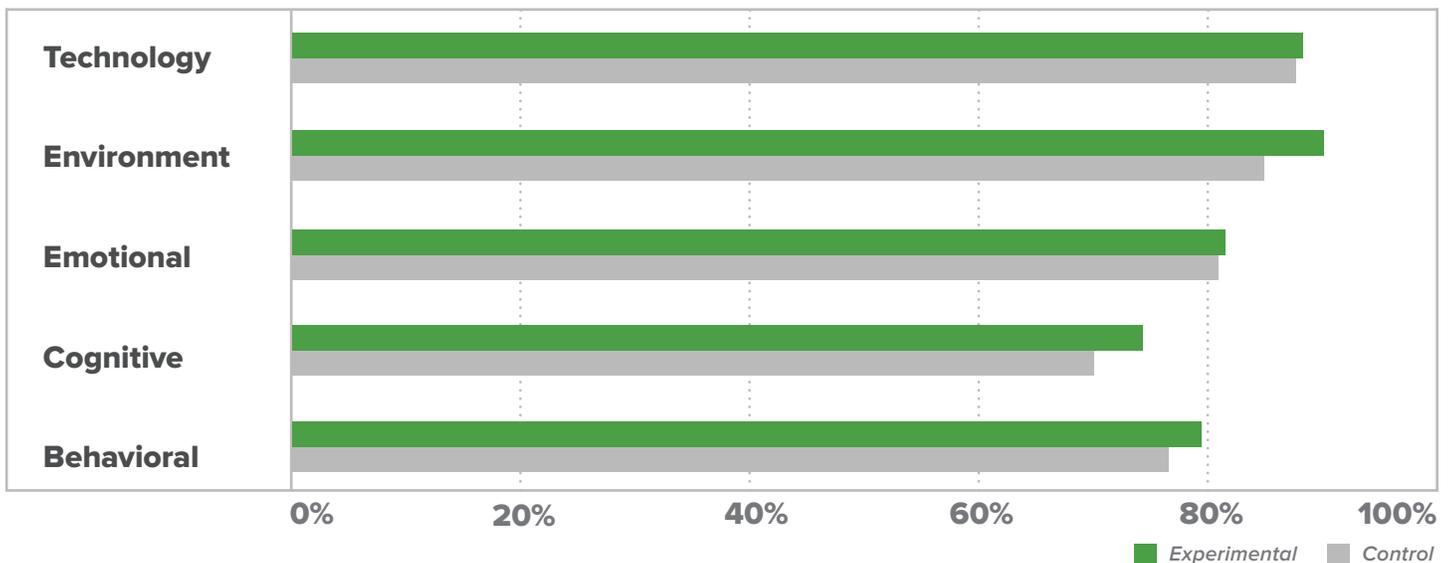


Students in flexible learning environments score slightly higher on our definition of student engagement (behavioral, cognitive, emotional) overall than do students in traditional classrooms.

The teacher self report instrument (FETS) shows the same patterns as the student self-report instrument. This indicates that data from two different sources (i.e. teachers and students) confirm the same outcomes on **student engagement**. Overall, students who are in flexible learning environments score higher on their levels of student engagement than do students in traditional classrooms (see graph below).

➤ FETS

Student Engagement Longitudinal 1.0
FETS 2019 Fall Semester Data



WHAT WE ARE DOING NEXT

LONGITUDINAL 2.0 UPDATES AND INITIAL FINDINGS

The addition of the Longitudinal 2.0 Study to the current suite of student engagement studies conducted to date is providing entirely new data allowing evidence-based conclusions on the structure of student engagement and a better understanding of the impact that facilitator variables have on **student engagement** growth and academic goals.

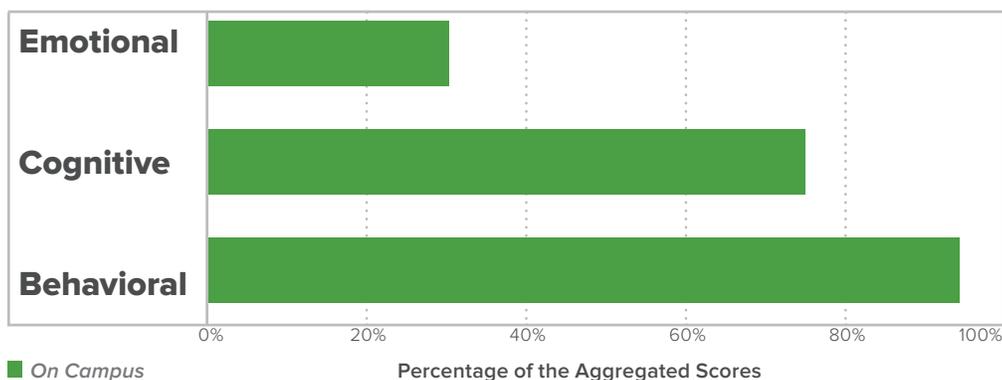
During this study, students are being observed in both their classrooms and online for a total of 16 observations. The total sample size consists of approximately 500 elementary-aged students (2nd grade to 4th grade) with approximately 25 teachers from two participating elementary schools. One elementary school will provide data for students in 2nd, 3rd and 4th grades while a second will provide data on students in 2nd and 4th grade.)

During this time both the self-report instrument and observation protocols will be used to measure **student engagement**. In all cases, classrooms will be observed bi-weekly. During each observation, one trained observer will monitor the class for a total of 20 minutes, filling out the observation form on student engagement and the environment.

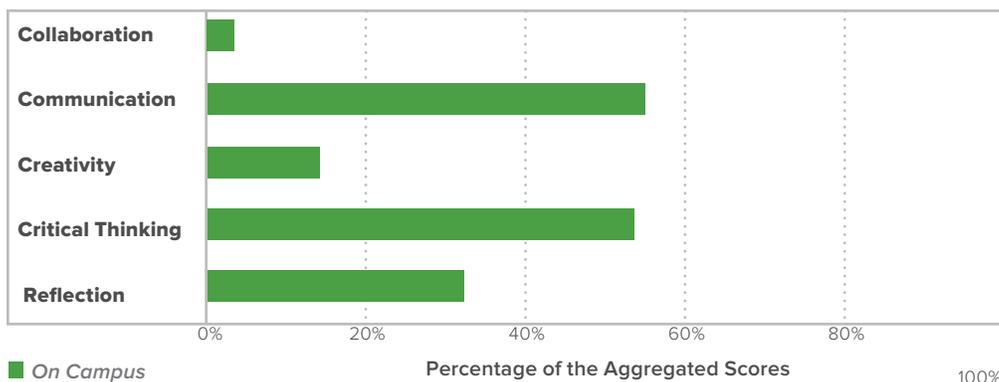
Currently, data and self-report instruments are being collected. IRB review and approval has already been obtained through both the university and the participating school district.

These graphs include data from a total of five observations collected September 16, 2020 through November 3, 2020.

Student Engagement Longitudinal 2.0 Observation Protocol



The 4Cs and Reflection Longitudinal 2.0 Observation Protocol

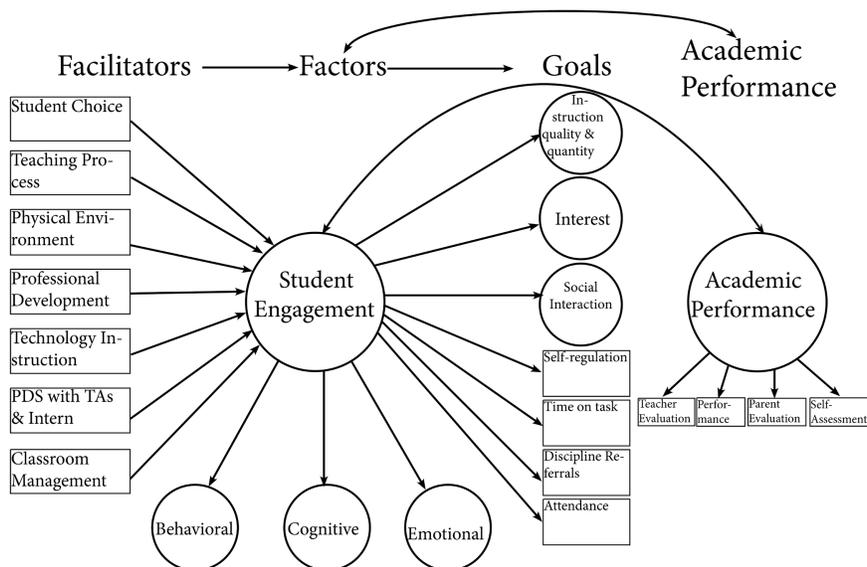
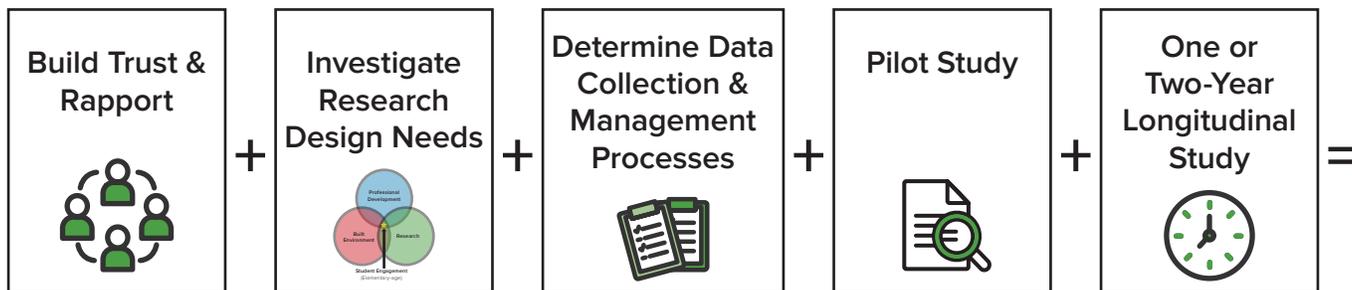


Even after the current limitations due to the Covid-19 pandemic, data shows that students are demonstrating strong levels of emotional, cognitive, and behavioral student engagement. In spite of Covid-19, “21st Century Framework” applied skills such as the 4C’s are still manifested at the same level or better in comparison to last year’s results. (See graphs in pg. 8 for comparison).

WHERE WE ARE GOING

HOW CAN YOU BE A PART OF THIS RESEARCH?

Alignment of Services with New School Districts



Measurement of Three Domain-Specific Constructs of Student Engagement
(Behavioral, Cognitive, Emotional)

Over the past five years, the LEx Collaborative has established both a rapport and common language allowing the partnership to develop the tools required to work with participating districts and identify their needs. As outlined above, the research process developed is iterative in nature, thus providing a powerful technique well suited across a broad scope of issues. More importantly, additional information is added during each iteration, leading to increasingly better outcomes. Finally, it has also been shown that this is best accomplished employing the new theory of student engagement which has been developed.

The process described has been applied and refined over the last three years, reducing the time required to replicate such a SEP study in other districts. New school districts will be on-boarded in the following manner.

1. A series of meetings will be held in order to establish a common language between the Collaborative and the ISD in order to align deliverables, concerns, and challenges.
2. Process reports will be provided on an annual basis to ensure that ISD needs, concerns and challenges are appropriately examined across our domain-specific constructs of engagement (Behavioral, Cognitive and Emotional) and facilitator variables of interest.
3. Finally, as the district provides access to their data, all of the information above will be correlated to academic outcomes.

Specifically, the process above will be carried out through the following procedure targeting the needs of the school district.

1. Initial conversations that build rapport and trust to align the district's language to the language of our theory and theoretical model will be held.
2. A pilot study to identify logistical boundary conditions will be conducted. Once the pilot study and analysis is complete, the LEx Collaborative and the school district will determine whether to engage in a one, two or three-year longitudinal study.
3. Once the above has been completed, the process show on the following page will be implemented.

SEP 5-YEAR PROGRESS SUMMARY



UNDERSTANDING THE PROBLEM

- Provides the hypothesis required to examine student engagement at the elementary school level.
- Provides the structure required to propose a model for student engagement.

COLLABORATION

- Builds the collaboration required to examine and solve the problem.
- One entity can not solve this problem alone.
- Multiple perspectives and wide-ranging expertise is required.

DEVELOPMENT

- Establish trust between all stakeholders.
- Develop and iterate a hypothesis that can be tested across multiple studies resulting in production of a construct (model).
- Generate all necessary components of the research including the hypothesis, the theory, a path model, the required instruments, and the data collection and analysis techniques necessary to provide an overall research design.

IMPLEMENTATION OF THE PROCESS

- Implement and iterate the construct (model) to establish / strengthen our theory and confirm our hypotheses.
- Prove the resulting products are trustworthy and reliable.

RESULTS

- Products have been shown to be trustworthy and are being used to compare how student engagement is affected by facilitator variables such as professional development, physical environment, and technology.
- A better understanding of the manner in which student engagement is impacted by external factors such as pandemics, and how these components are related to student engagement and academic outcomes for elementary-aged students is underway.



LEX COLLABORATIVE PRESENTATIONS AND PUBLICATIONS

PRESENTATIONS AT PROFESSIONAL CONFERENCES

- SW-ASTE 2016** Carmona-Reyes, J., Wang, L., York, J., Maze, J., Turner, J., Huckabee, C., Hyde, T.
“Identifying the Correlation Between Classroom Flexibility, Teacher Mobility and Student Engagement” accepted by the South-West Association for Science Teacher Education Regional Meeting.
- SW-ASTE 2016** Wang, L., Carmona-Reyes, J., York, J., Hyde, T.
“Improving Classroom Engagement in Secondary Science Classrooms: Proposing a research based Professional Development Model on Student Engagement” accepted by the South-West Association for Science Teacher Education Regional Meeting.
- TX-STEM 2017** Carmona-Reyes, J., Wang, L., Hyde, T., York, J., Maze, J., Huckabee, C., Ranney, K., Turner, J.
“Building Successful Community Collaborations to Enhance STEM Education” accepted by the Texas Science, Technology, Engineering and Mathematics (STEM) Coalition conference.
- SW-ASTE 2017** Buchs, T., Carmona-Reyes, J., Hyde, T., Wang, L., Coffey, M., Maze, J., York, J., Huckabee, C., O’Neal, T., Ranney, K., Turner, J., Howell, L.
“Investigation of an Innovative Elementary School Classroom Environment” accepted by the South-West Association for Science Teacher Education Regional Meeting.
- NAPDS 2019** Merritt, B., Howell, L., Carmona-Reyes, J., Attai, S., Fischer, J., Edwards, K., Fanning, N.
“An exploratory investigation of flexible classroom furniture” accepted by Strand 5: Examining research, scholarship, and policy to improve PDS for the National Association for Professional Development Schools annual conference in Atlanta, GA.
- SERA 2019** Carmona-Reyes, J., York, J., Howell, L., Attai, S., Hyde, T., Ranney, K.
“A pilot study: An exploratory investigation on flexible furniture in an elementary school and the impact on student engagement” accepted by Division II: Instruction, Cognition, and Learning for the 42nd Annual meeting of the Southwest Educational Research conference in San Antonio, TX.
- AERA 2019** Carmona-Reyes, J., Attai, S., Davis, J., Altmann, R., York, J., Ranney, K., Hyde, T.
“Initial development and validation of the Student Engagement Student Survey (SESS)” submitted to Division D: Measurement and Research Methodologies, Section 1: Educational. Measurement, Psychometrics, and Assessment for the Annual meeting of the American Educational Research Association conference in San Francisco, CA.
- AERA 2019** Attai, S., Carmona-Reyes, J., Davis, J., York, J., Ranney, K., Smith, S., Hyde, T.
“Investigating the impact of flexible furniture in the elementary classroom” submitted to Division C: Learning and Instruction, Section 3a: Learning Environments for the Annual meeting of the American Educational Research Association conference in San Francisco, CA. (Not accepted)
- AERA 2020** Carmona-Reyes, J., Attai, S., Davis, J., Altmann, R., York, J., Ranney, K., Howell, L., Hyde, T.
“Psychometrics of an Instrument Measuring the Impact that Learning Environments have on Elementary Students Engagement” accepted to Division D: Measurement and Research Methodologies, Section 1: Educational. Measurement, Psychometrics, and Assessment for the Annual meeting of the American Educational Research Association 2021 conference online.
- SERA 2020** Carmona-Reyes, J., Attai, S., Altmann, R., Davis, J., York, J., Ranney, K., Howell, L., Hyde, T.
“Results of an Observational Study on Elementary School Student Engagement” submitted to Division II: Instruction, Cognition, and Learning for the 44th Annual meeting of the Southwest Educational Research conference online.

PRESENTATIONS AT PROFESSIONAL CONFERENCES, CONT.

SERA 2020

Carmona-Reyes, J., Attai, S., Altmann, R., Davis, J., York, J., Ranney, K., Hyde, T.
“The Impact of the Physical Environment on the 4Cs and Elementary School Student Engagement” accepted to Division II: Instruction, Cognition, and Learning for the 44th Annual meeting of the Southwest Educational Research conference online.

APS-DPP 2020

Carmona-Reyes, J., Attai, S., J., York, J., Ranney, K., Hyde, T.
“A Study on the Increase in Interest and Positive Perception of STEM Fields through Student Engagement” submitted to Subject Classification Category 9.0: Education and Outreach for the 62nd Annual meeting of the American Physical Society Division of Plasma Physics conference online.

TASA-TASB 2020

Kazanas, G., York, J., Carmona-Reyes, J., Ranney, K.
“Leveraging Flexible Environments to increase Student Engagement” submitted to TASA Mid-Winter online.

TEACHER PROFESSIONAL DEVELOPMENT

LExC PD

(2018) York, J., Attai, S., “SEP Longitudinal Study PD Modules: Pedagogy for Effective Use of Flexible Environments” for Student Engagement Research with Midway ISD.

TRANSFORM-ED

(2019) Attai, S., York, J., ELB Furniture, “Engaging Students in the Learning by Flexing the Environment”, Educational Service Center Region 12, TransformED conference. Audience: Elementary teachers, Waco, TX.

Description: Flexible learning environments have begun to show an increase in student engagement, sense of community, collaboration, and student wellbeing. In this session, educators will participate in a 30-minute immersive lesson as a student. Empowering educators through choice in a flexible learning environment.

TRANSFORM-ED

(2019) Attai, S., York, J., ELB Furniture, “Engaging Students in the Learning by Flexing the Environment”, Educational Service Center Region 12, TransformED conference.

Audience: Secondary Teachers, Waco, TX.

Description: Flexible learning environments have begun to show an increase in student engagement, sense of community, collaboration, and student wellbeing. In this session, educators will participate in a 30-minute immersive lesson as a student. Empowering educators through choice in a flexible learning environment.

TRANSFORM-ED

2019) Attai, S., York, J. “Flexible Learning Environments” Educational Service Center Region 12 for the TransformED conference

Audience: Elementary Teachers, Waco, TX.

Description: In this session, teachers will participate in a series of reflective activities to tease out the benefits and perceived roadblocks associated with the classroom environment. The goal is to showcase how the flexible nature of furniture can drive instructional choices that positively impact student engagement and student success.

TRANSFORMED

(2019) Attai, S., York, J. “Flexible Learning Environments” Educational Service Center Region 12 for the TransformED conference.

Audience: Secondary Teachers, Waco, TX.

Description: In this session, teachers will participate in a series of reflective activities to tease out the benefits and perceived roadblocks associated with the classroom environment. The goal is to showcase how the flexible nature of furniture can drive instructional choices that positively impact student engagement and student success.

REQUESTED SPEAKING ENGAGEMENTS

- 2019** “*The benefits of flexible learning environments in the elementary grades*”
Midway Independent School District, Waco, TX
Invited by: George Kazanas, Ed.D, Superintendent of Schools
Audience: MISD School Board of Trustees
Speaker: Dr. Shanna L. Attai
- 2019** Guest Lecturer: Dr. Shanna L. Attai
Baylor University, Waco, TX
Course: Trends in Educational Leadership, Professor - George Kazanas, Ed.D. Department of Educational Leadership & Policy
Topic: *The Transformative Power of Research-Practice Partnerships*

PUBLICATIONS

- 2021** Attai, S., Carmona-Reyes, J., Davis, J., York, J. Ranney, K., Hyde, T. Investigating the Impact of Flexible Furniture in the Elementary Classroom. *Learning Environments Research*.
- 2019** Attai, S., York, J., Reyes, J.C., Ranney, K., Hyde, T. (2019) Exploring where learning and the environment intersect. *Leaders of Learners*. 13(3), 3-6.
- 2019** Carmona-Reyes, J., Attai, S., Davis, J., York, J. Ranney, K., Hyde, T. (in progress). Initial Development and Validation of the Student Engagement Student Survey (SESS) Assessment for Effective Intervention.
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GLOSSARY OF TERMS

21st Century Framework Skills

Skills and knowledge students need to succeed in work and life and to support the systems that are necessary for 21st century learning outcomes.

Built Environment

Surroundings adapted for the efficient learning of students.

Construct

Conceptual tool used to facilitate understanding of human behavior.

Control

The standard to which comparisons are made in an experiment.

Facilitator Variables

Variables that have a direct impact on student engagement such as the learning environment, professional development and parental support.

Flexible Furniture

Adaptable fixtures that allow classrooms to be arranged into different configurations and accommodate student needs.

Flexible Learning Environments

Conditions that are adaptable to facilitate student learning. Flexible learning environments address how physical space is used, how students are grouped and how time is used throughout teaching.

Intervention

Experiment in which the researcher intercedes as part of the study design.

IRB

Institutional Review Board that academic and research institutions have in place to safeguard the well-being of research participants and apply research ethics to all research endeavors taking place in the given institution.

Longitudinal Study

Research project that involves repeated observations of the same variables over a certain period.

Pilot Study

Small-scale preliminary investigation conducted in order to evaluate feasibility, duration and cost, and improve the study design before carrying out a full-scale research project.

Professional Development

Teacher training aimed at facilitating the examination and reevaluation of classroom management techniques, allowing students to build autonomy.

Student Engagement

Our construct of student engagement is a generalized description defined by dimensions of behavioral, emotional and cognitive components.

Behavioral engagement refers to students' levels of participation, task completion, effort, and involvement in the learning activities.

Emotional engagement refers to students' sense of belonging, positive relationships, interest in learning and their identification with schools.

Cognitive engagement refers to students' level of autonomy, competence and the cognitive and self regulation strategies students use during the learning process.

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