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The *IALS Journal* is published once a year and addresses key issues facing today's laboratory and university affiliated schools. Articles offer perspectives on educational trends and include topics such as the history and future of lab schools, innovations in curricula and programs, lab school administration, and teacher education. The journal includes articles grounded in evidence-based classroom practices, action research, and theoretically based quantitative and qualitative scholarship. IALS © December 2022

This special edition focuses on recent events related to the COVID-19 pandemic and the laboratory schools' response to it. Through the investigations presented here, teachers, administrators, and researchers make an important contribution to post-pandemic research literature that we hope will enlighten professionals from all fields of knowledge.

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LETTER FROM THE EDITOR

I am delighted to introduce the second volume of the twelfth edition of the *IALS Journal*, a special issue that is fully devoted to researching and exploring the unprecedented challenges faced by teachers, students, parents, and administrators during the COVID-19 pandemic. In addition to serving as a catalyst for innovation, empathy, and frustration, distance learning left in its wake a plethora of learning experiences for school communities around the globe.

As the articles in this volume cogently show, the pandemic knew no geographical boundaries and impacted the teaching-learning process in strikingly similar ways across the world. While different countries implemented their own national, state, or provincial restrictions and mandates to cope with the rapid spread of the virus, a common denominator emerged: despite school closures and social distancing, our laboratory schools never stopped working. Adapting to a new remote reality proved to be daunting to all parties involved, as teachers and administrators abruptly adapted their daily routines to remote modalities with only days, if not hours, to prepare. Nevertheless, as the interviews conducted with laboratory school communities in Germany, Canada, United States, and Puerto Rico confirm, what at first seemed like obstacles impossible to surmount developed into opportunities to become familiarized with new technologies; (re)connect with nature; recognize the importance of self-care; revisit teaching and assessment strategies; emphasize quality over quantity; and empathize with parents, colleagues, and students.

Indubitably, the COVID-19 pandemic left an indelible mark on the teaching profession and generated a wealth of experiences, research, and scholarship that will enrich our practice for years to come. History is cyclical and, while we can only hope humanity is not faced with a similar phenomenon in the near future, we now possess the experiential knowledge to help us make informed decisions that safeguard the physical and emotional wellbeing of our school communities in the face of adversity. We hope that this special edition of the *IALS Journal* not only functions as a repository of this knowledge for future generations, but also serves to disseminate the high-quality and peer reviewed research conducted in our laboratory schools.

We look forward to receiving your submissions for publication in future editions.

Dr. Roberto E. Olmeda

2022-2023 Editor

The International Association of Laboratory Schools (IALS) is an international association of university or college affiliated schools engaged in practices of teacher training, curriculum development, research, professional growth, and educational experimentation for the purpose of supporting member's schools and as a voice speaking for the improvement of learning for all children.

WELCOME TO IALS SPECIAL EDITION JOURNAL

The COVID-19 Pandemic brought abrupt emergency school closures which led to the need for a scramble to provide remote learning in the Spring of 2020, and then the re-opening of many schools with strict health and safety protocols in September 2020. This was followed by additional waves and school closures, intermittent with periods of in-person learning. In each scenario, what was being asked of educators seemed to be at direct odds with what is known about best practice for fostering children's well-being and engagement with learning. Initially, both the remote learning and the reopening during a pandemic appeared to be daunting and almost futile tasks. Yet somehow, Laboratory Schools stayed true to their values and have continued to provide learning experiences that put their students' needs at the center.

This special edition of the *IALS Journal* aims to show how ten IALS member Laboratory Schools responded to the COVID-19 pandemic, and to share the way they engaged in research to examine and learn from the experiences of their community members. Our vision in this volume is to better understand how children and youth, educators, families, student teachers, researchers, faculty, and administrators were processing and making sense of their experiences of school during the ongoing pandemic, with an eye to strengthen our approach to best support everyone moving forward. We hope that other educators, administrators, researchers, and policy makers interested in learning from the experiences of Laboratory Schools, may find support in and gain insight from the experiences described here.

History of the IALS Research Collaboration

This collaborative documentation of IALS research was prompted by a desire to share what we were learning about the pandemic. Dissemination about our practice is in the DNA of Laboratory Schools and is reflected in the mission of the IALS organization. The COVID-19 pandemic changed child care centers, schools, colleges, and universities. Laboratory Schools are in a unique position to understand the realities facing each of these constituencies, and to share how they maintained the highest standards during the pandemic in ways that may be of

help and interest to others.

At the start of pandemic, the IALS research collaboration emerged initially from an interest to connect and share about how each of us were continuing to do any research at all during that time when the world shut down. The focus on research sprang organically and dynamically from the IALS Collaborative Conversations which the IALS Board set up as opportunities for virtual sessions on a variety of topics in response to the isolation we all experienced in the Spring of 2020. Those conversations continued, with several focused specifically on research. We were curious – how were researchers continuing to conduct research during the pandemic? What were they learning? In the Spring of 2021, a large number of us gathered again and talked about all the different research interests that had emerged since the start of the pandemic. Sharon Carver, Director of Children's Lab School at Carnegie Mellon University acted as a discussant and helped us to identify the main research approaches or themes in what was shared. The IALS Virtual Conference in July 2021 provided an additional opportunity for participants with a research interest to meet and discuss them together. The IALS Research Collaboration centering on pandemic research was officially launched in August 2021 and regular monthly meetings were held starting in the Fall of 2021. Meetings were designed to enrich, educate, and encourage Lab School participants to engage in COVID-related research.

We were pleased to have representatives from over 20 Lab Schools joining the virtual monthly meetings. In the sessions, we invited schools to share presentations of their research. Snapshots of Lab School Research presentations provided windows into each other's experiences, for example:

- ***Reflections on a Preschool in Quarantine.*** Dr. Sharon Carnahan, Hume House Child Development & Student Research Center, Rollins College
- ***Staying True to Their Mission.*** Dr. Jennifer Gallo-Fox and Dr. Dorit Radner-Griffin, The Lab School, University of Delaware

- ***Land-based Learning and Environmental Inquiry in the Early Years.*** Dr. Monica McGlynn Stewart, George Brown College School of Early Childhood, Toronto
- ***What can we learn from Human Factors research about better understanding (and explaining) learning context as a key element of technological-pedagogical decision-making?*** Dr. Kim Mackinnon, Professor and Director of the Eureka! Research Institute, University of Toronto Schools (UTS)
- ***Teachers' Learning During Emergency Remote Teaching at the UPR Laboratory High School.*** Dr. Jacelyn Smallwood Ramos, University High School (UHS) Laboratory School for the University of Puerto Rico

We also offered sessions to develop research competency on various topics, utilizing expertise of different members, and supporting each other's research process with timely workshops:

- ***Focus Groups with Children.*** Dr. Katrina Bartow Jacobs, Falk Lab School, University of Pittsburgh
- ***Designing Effective Surveys, Questionnaires, and Interviews: How to ask good questions.*** Dr. Clare Kosnik, Ontario Institute for Studies in Education, University of Toronto
- ***Getting from Open Ended Questions to Publication: How to work with narrative data.*** Dr. Alice Davidson & Dr. Sharon Carnahan, Hume House Child Development & Student Research Center, Rollins College
- ***How to Approach Writing an Academic Manuscript for Publication.*** Dr. Sue Adams and Jessica L. MacLeod, Director, URI Child Development Center, University of Rhode Island
- ***Engaging in (COVID-Era) Research with Children.*** Dr. Katrina Bartow Jacobs, Falk Lab School, University of Pittsburgh

The main aim of working together on a unified research focus was to increase the breadth and depth of our collective impact in the dissemination of our research and to share with other educators and school leaders looking for insight into how to navigate these challenging times. So many other benefits have emerged from this collaborative work.

Our goals united us:

1. Connect Laboratory Schools across the globe to enrich their research, and augment their voices, by collaborating on a timely project of mutual interest.
2. Collectively explore and disseminate Laboratory Schools' experiences during the COVID-19 pandemic, what was learned, and how we continue to support the needs of our students, parents, teachers, student teachers, and all community members in its aftermath.
3. Build capacity amongst Lab Schools in conducting and publishing research, to strengthen their public purpose.
4. Support Lab School researchers as they develop manuscripts for the *IALS Journal* and elsewhere.
5. Publish a Special Edition of the *IALS Journal* to showcase research done by Laboratory Schools around the pandemic.

In the Spring of 2022, IALS member schools were invited to submit contributions to a publication showcasing their research during the COVID-19 pandemic, outlining their experiences, what they learned, and how they met the needs of students, teachers, families, and staff. It should be noted here that this journal is focused on the experiences of the adults in school communities and any information presented about children and students comes from that lens. IALS greatly values bringing students' ideas and voices directly into research and we recognize and acknowledge that their voices are missing here. The members of the IALS Research Committee who chaired this collaboration wanted very much to share research that gathered and included student voice in this compilation, however, due to time constraints and in an effort to bring this journal to publication in a timely manner, we were unable to do so. Many of our IALS members are engaged in research with students, some with an intention to better understand how children have experienced the pandemic, which we hope to include in a future publication of the *IALS Journal*.

The Special Edition COVID-19 Research Papers

In this volume, we are proud to highlight the COVID-19 research findings of ten IALS member Lab Schools:

1. George Brown College School of Early Childhood, with 12 early years Lab School sites in Toronto, discovered a hidden gift of the COVID-19 pandemic: the necessity

of spending more time outside brought insight into the many benefits of outdoor nature experiences for young children. The beginning of the pandemic coincided with the launch of a qualitative research study on the process of integrating Indigenous perspectives on Land-Based learning into the programming of four of George Brown Laboratory School sites and six other early learning centres in the city. Twenty preschool educators across the 10 sites were interviewed about their perspectives and practices. The results illustrate that the educators increased their knowledge of Indigenous perspectives on Land-Based learning, including concepts of gratitude, respect, and care for the natural world, and they became more comfortable integrating nature and outdoor experiences into their programs. Educators reported a greatly expanded list of benefits of outdoor nature experiences for young children, and a reduced list of challenges. They also reported a shift in their own, and the children's, relationships with the natural world to include greater respect and connection, which in turn led to greater engagement and excitement with outdoor learning, new teaching and learning strategies, and enhanced wellbeing. Although pandemic-induced restrictions lessened over time, the centres continued to spend extended time outdoors and focus on nurturing reciprocal relationships with the natural world.

2. Researchers at the Rollins College Hume House Child Development & Student Research Center, a laboratory preschool in Florida, adopted a unique approach to describe their response to the pandemic by applying Kurt Lewin's 3-phase "unfreeze, change, refreeze" theoretical model of organizational change. Through a phenomenological analysis of the narrative accounts of the staff during 3 phases of the pandemic, they explored their experiences in supporting the preschoolers and undergraduate students during the pandemic. This paper reveals what they learned about the importance of both addressing the emotional wellbeing of the staff and at the same time trusting them to rise to the challenge to provide warm, caring, connection and support for the community.
3. Horace Mann Lab School and the Phyllis and Richard Leet Center for Families and Children, serving children birth through 6th grade at Northwest Missouri State University, surveyed their stakeholders' perceptions of policies made during the pandemic, and discovered overwhelming support for their efforts to prioritize a strong sense of community for all children, teacher candidates, teachers, caregivers, and others, as well as support for their decision to prioritize face-to-face learning. An additional interesting consequence of their research is a shift in a prior goal to explore online learning to one more firmly grounded in their constructivist, child-centered approach. While they had considered integrating online curriculum to help manage learning gaps and address various needs, their experiences during the pandemic allowed them to realize that this did not reflect their values as an institution. Their focus instead was placed on integrating a child study team, with early screening, interventions, and progress monitoring within the school. The wisdom gained during their experiences of online learning highlighted the importance of the social nature of learning in the classroom.
4. Falk Lab School, a Kindergarten to Grade 8 elementary school at the University Pittsburgh, examined the coping mechanisms, stressors, and general experiences of the adults in the Falk Lab School community (staff, faculty, parents/caregivers) in relation to the COVID-19 pandemic with a survey including Likert-scale and open-ended questions. Three central themes emerged in the data: the challenges parents and caregivers faced in learning to be assistant teachers; the complications and sometimes surprising advantages of infusing technology; and the importance of the shared value and culture of experimentation, an essential aspect of their mission as a Lab School. The Falk study highlights how a child-centred approach lends itself to making appropriate decisions during a crisis that allowed parents and teachers to prioritize the needs of the children. It also shows the importance for school leaders to put their trust in their staff and give them time and space to experiment and adapt during challenging times.
5. Grace B Luhrs Elementary school at Shippensburg University used a transcendental phenomenological study to explore the experiences and perceptions of their teachers and families during the pandemic, and how the school's climate and response to pandemic protocols impacted their ability to persevere. Several themes emerged, the most common of which was the importance of the school's efforts to maintain and build connections, which positively impacted their ability to support their children. Other themes such as the realignment of priorities, using a flexible approach, and project-based learning, also contributed to mitigating the challenges of the pandemic.

6. The results from a survey conducted at the University of Toronto's Dr. Eric Jackman Institute of Child Study Lab School, a Nursery to Grade 6 elementary school illustrate how their principles helped sustain the community through the extraordinary and stressful first year and a half of pandemic learning with *organizational compassion*. In addition, their findings reveal that not all learners encountered difficulties in the online learning environment. Their paper underscores the importance of prioritizing security and attachment needs during any future complex and challenging learning circumstances.
7. Laborschule Bielefeld, for children aged 5 to 16 at Bielefeld University in Germany, explored the impact of the COVID-19 pandemic on the research and development work of the Laborschule through a qualitative survey of its teacher-researchers. They bring a closer look at the specific challenges that organizations focused on participatory research – such as Laboratory Schools – face in the wake of a global emergency like the current pandemic. The key take-aways centre around ensuring appropriate organizational structures are in place to provide enough presence and time in schools for the research to flourish.
8. The Escuela Secundaria, for Grades 7-12, at the University of Puerto Rico's descriptive study used semi-structure interviews to analyze how the faculty and staff experienced the phases of the pandemic, coped with the transitions between instructional modalities, and handled the challenges. Their paper reflects on what was learned from the process about teaching in general, and about the possibilities and limitations of distance learning in secondary education. In their interviews, teachers, counselors, and administrators shared how they confronted challenges with each change, and how their praxis evolved as a result of these challenges. A compelling picture emerges of how one school managed one of the most challenging episodes in the history of modern schooling.
9. University of Toronto Schools (UTS) present findings from survey and interview data with in-service and pre-service teachers at a Grade 7-12 laboratory school in Toronto. Through the data collection process, stories were elicited of the lived experiences of these educators in response to the shifting realities of public health advisories and the need to adopt varying modalities of continuity of learning for students. Their analysis of the data reveals 6 major findings: the importance of a social presence; discussions of an increased need to focus on wellness and coping with the stress; putting students needs at the centre; the challenges and sometimes surprise benefits of technology; technological skepticism especially around hybrid learning; and the important role of providing in-school support. Similar to others school, the UTS study also discusses the gratitude teachers felt to have administrators who provided support to prioritize student and teacher wellbeing.
10. The University of Rhode Island, and their two laboratory preschools The URI Child Development Center and the Dr. Pat Feinstein Child Development Center, engaged in research that sought to understand the experiences of other schools and not just their own. This study gives voice to the experience of 27 Lab School directors as they navigated the complexity of leading their respective communities through the pandemic, the impact this had on their own wellbeing, and what factors buffered their stress and helped them to cope. Analysis of their questionnaire revealed that while higher levels of stress during the pandemic were reported, previous experience coping with stress appeared to buffer the impact of the pandemic on directors' mental health, and greater mental health management resulted in higher life and job satisfaction overall, based on the belief that they were engaged in meaningful work.

We launched the research collaboration to share research ideas and support each other's research process to collectively explore Laboratory Schools' experiences during the COVID-19 pandemic. We wanted to examine how we responded to the pandemic, what we learned, and how we would continue to support the needs of our students, teachers, families, and staff in its aftermath. We knew we each had stories to tell about how we as Laboratory Schools rose to the challenges presented by the pandemic, and how we did so without sacrificing what we know about what children need and how they learn best. We saw that together we had an opportunity to speak in a collective voice to advocate for the importance of centering students' needs in decision-making especially in the most challenging of times for schools. This Special Edition of the *IALS Journal* represents the culmination of this collaboration, and we hope you find it of value and interest.

As we look to an uncertain future post-pandemic, and foresee a continued need to navigate challenges, the research from these ten laboratory schools has helped to chart the way forward for all of us. Here you will find solid documentation of the flexibility, integrity, innovation, and commitment of

laboratory schools in the face of an unprecedented crisis. Although we hope that we will not again face such a pandemic, we know that there will be times ahead in which we may be asked to use a similar breadth of strength-building in facing new circumstances. This special edition of the *IALS Journal* stands not only as a snapshot of what was accomplished but also as a contribution to the future and what we have learned together as we responded to and documented one very particular moment in time.

Sincerely,
Chriss Bogert

on behalf of the IALS Research Collaboration Editorial Board
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Teacher Research and School Development During the Pandemic at Laborschule Bielefeld, Germany

Johanna Gold, Annette Textor, and Christian Timo Zenke

DEPARTMENT OF EDUCATIONAL SCIENCE, BIELEFELD UNIVERSITY

“Well, we were—everyone was sitting at home in survival mode [...] And we reassured each other, that it is okay not to think about R&D projects right now, because you were—I felt completely overstrained at that point¹.”

The Impact of COVID-19 on the Physical and Mental Health of Laboratory School Directors

At Laborschule Bielefeld, teachers and researchers have been working together on curriculum and school development projects for the past fifty years, using the methods of participatory action research—with teachers taking on a role as teacher-researchers. According to this research model, the research and development projects at Laborschule are characterized by institutionalized close cooperation between teachers at the schools and staff at the research institutions². By being located in the schools, the research activities are aligned with the course of the school year and take the concerns and needs of everyday school life very seriously. However, this form of research and development has been severely challenged since the beginning of 2020 by the COVID-19 pandemic; not only have the teachers involved been exposed to an unusually high level of stress, but also the established routines and practices of currently active research and development projects have been overturned. The pandemic turned the courses and organization of the school year upside down and also fundamentally changed the needs and requirements of the pupils. In particular, the frequent and mostly short-term changes in the course of action created a climate of uncertainty.

This paper takes a look at how teachers involved in research projects have dealt with the challenges of the pandemic and how these challenges have influenced their research. Six teachers from Laborschule were asked how they experienced research and development in their school during the pandemic and what conclusions they draw from these experiences for their post-pandemic research. The way the pandemic was handled and the measures taken by the government with

regard to schools varied greatly in different countries. The article begins with a brief overview of what steps were taken in Germany with regard to schools. This is followed by a presentation of Laborschule with focus on its research model. Both steps are important to be able to classify the teachers' statements about their work during the pandemic.

In the analysis of the teachers' narratives, it is systematically worked out which conclusions can be drawn from the experience with the pandemic, both for the organization of research and for school development.

Schools during the Pandemic in Germany: Challenges for Research

After COVID measures were implemented in Germany and the first schools in affected districts were closed in February 2020, schools were closed in the entire country from March 16, 2020. Neither the schools themselves nor the education administration and education policy were prepared for such an exceptional situation (Porsch & Porsch, 2020). Numerous problems and deficits emerged in coping with distance learning (Wrase, 2020), e.g., a lack of digitalization in school learning. As of April 23, 2020, schools were opened for the final year of classes in the context of exam preparation measures. After the summer holidays, face-to-face teaching began for all pupils. As case numbers continued to increase, parents could voluntarily exempt their children from attending classes from December 14, 2020. Distance learning was carried out for eighth-grade children (from about the age of 14). The vaccinations that began in January contributed to the hope that the schools would soon be able to return to normal operation. The hope was not fulfilled, and regular attendance to classes was still not possible. In January, the operation of the schools was linked

¹ Quote from Interview 3

² Laborschule is, together with Oberstufen-Kolleg Bielefeld, one of two experimental schools of the state of North Rhine-Westphalia (Palowski et al.2019).

to the rising case numbers. As it was still not possible to break the infection pattern, distance learning was again carried out nationwide from February 1 to March 12, 2021, and restricted face-to-face teaching was introduced from March 15, 2021 onwards. In April 2021, compulsory testing for pupils and teachers was started, although lessons were initially moved back to distance learning. Only the graduating classes were allowed to go to school. From May 31, 2021, all schools in school districts with stable case numbers were allowed to teach face-to-face. All these fast changes to the situation affected not only the teaching, but also school development. The teaching staff and working groups could not meet as usual, and the directory boards of the schools were busy implementing fast-changing demands into everyday school practice. In summary, we can state that the pandemic had a major impact on the organization of schools in general and also on the organization of teaching.

As a result of these changed organizational structures, increased research activities on this topic can be traced in the nationwide academic discourse. A large number of those studies focused on distance learning from the perspectives of the various actors (Fickermann & Edelstein, 2021). Three examples of this research focus are the study of *forsa Institute*, which surveyed 1,031 teachers of general education schools for a special edition of *Deutsches Schulbarometer* (German School Barometer) (Robert Bosch Stiftung, 2020), the *HOMESchooling 2020 study*, conducted by the University of Koblenz Landau, which surveyed a total of 4,230 parents (Wildemann & Hosenfeld, 2020) or the *Deutsches Jugendinstitut* (German Youth Institute), which surveyed more than 8,000 parents of children aged three to 15 years (Langmeyer et al., 2020).

As the pandemic progressed, the consequences of distance learning and of the missing school everyday life for the pupils increasingly came to the fore. Both qualitative and quantitative studies address the already existing educational inequalities that have been exacerbated by the pandemic. As a part of this topic, three different discourses can be identified: The first discourse addresses the reinforcement of educational disparities through the pandemic (Eder et al., 2022). The second discourse focuses on the relationship between teachers and pupils in the phase of school closures and the impact of this dimension on educational engagement (Bremm, 2021). The third discourse is about the school-related beliefs of children and their impact on the intensification of educational inequalities (Klopsch & Rohlf, 2021) and on the mastery of transitions between school levels (Schreiner et al., 2022).

All these studies focus on the effects of the COVID pandemic on the organization of schools and especially on teachers and pupils. The consequences for the researchers conducting research projects in schools usually are mentioned

in passing, in the description of the research methods. There is an increase in ad hoc samples, which do not follow a sampling strategy but instead focus on accessing the research field as quickly as possible. The collection of data has also increasingly taken place via digital means (Fickermann & Edelstein, 2021). A publication by Oberstufen-Kolleg deals specifically with the challenges posed by the pandemic for research, especially research conducted by teachers (Heinrich & Klewin, 2021a), and describes how this kind of research is conducted under the conditions of the pandemic (Heinrich & Klewin, 2021b). A joint publication by Laborschule and Oberstufen-Kolleg (Gold et al., 2021) provides an example of how teachers and researchers can work together in a practical research project and what problems have to be overcome.

Research Problem and Questions

This paper aims to contribute to filling the need for research on the challenges for researchers in schools during the COVID pandemic. The aim is to take a closer look at the specific challenges that organizations focused on participatory research – such as Laborschule – face in the wake of a global emergency like the COVID pandemic.

This main question is divided into three sub questions:

1. How did teachers experience the school closures and their research and development activities during that time?
2. Did they try – and if yes, how – to stay in touch for continuing their research and development activities, using the methodology of Practitioner Research?
3. What have been the challenges of the pandemic, and what did the teachers learn from the need to work remotely for their research and development activities?

Laborschule Bielefeld: School Context

Laborschule Bielefeld, opened in 1974 and thus one of Europe's oldest laboratory schools, is currently attended by a total of 700 pupils ages five to 16. It is located right next to Bielefeld University (cf. Zenke, 2018). This proximity not only serves to facilitate the integration of school practice into university teaching and training, but also signals the fundamental concern of Laborschule to bring school practice and university research closer together. The declared aim of the founder of Laborschule, Hartmut von Hentig, had been to establish a research school, which was meant to be a counter-model to the empirical-quantitative school research that was

just emerging in Germany at that time. The separation of roles between teachers and researchers was meant to be abandoned in favor of a joint effort of all those involved directly in concrete problems of school practice: teachers should also do research; researchers should also teach (cf. Hollenbach & Tillmann, 2011).

Following Hentig's retirement as professor in 1987, the basic idea of this "teacher as researcher" model was retained, but the organizational integration of Bielefeld University and Laborschule was fundamentally restructured. The one institution Laborschule became two institutions: on the one hand, the Laborschule School Unit as a state-run experimental school, under the supervision of the Ministry of Education, and on the other hand the Laborschule Research Unit as part of Bielefeld University and under the supervision of the Ministry of Science. While the Research Unit has – since 1990 – been an institution of the Faculty of Educational Science and has its own budget for staff and equipment, the School Unit has a separate allocation of 90 teaching hours per week (five teaching positions). From this pool of teaching lessons, so-called "relief hours" are assigned to teachers of the School Unit who are involved in research projects. This means that these teachers have to give fewer school lessons and instead have time to do research and publish (cf. Textor et al., 2020).

Although the cooperation between Bielefeld University and Laborschule has changed considerably in terms of how it is organized, the fundamental goals have remained largely the same: School Unit and Research Unit still have the task of jointly developing and testing new possibilities of learning and living together in a school environment. As an entity of School Unit and Research Unit, Laborschule is therefore in constant exchange with its main reference systems: the scientific community, the wider school system, and the educational policy. On the one hand, these serve as permanent impulses and points of reference for the work of Laborschule. On the other hand, they are its explicit goal: the findings and innovations developed at Laborschule are meant to be transferred back into educational science, the wider school system, and educational policy (cf. Kurz et al., 2022).

At the center of the research and development work of Laborschule is the systematic connection between participatory research and school development.³ In concrete terms, this means that problems and questions arising directly from Laborschule's practice are first analyzed using qualitative and/or quantitative research methods and reflected on with reference to current developments in the scientific community, the wider school system, and the educational policy in Germany. Secondly, the arisen problems and questions are transferred into school practice as an innovation. Thirdly, this

innovation is tested during everyday teaching at Laborschule. This trial phase is followed by an evaluation process in which it is examined to what extent the resulting innovation can solve the problems on which it is based. If there is a clear need for improvement in this context, this school development loop begins again: further reflection of aims and constraints, development of the corresponding innovation, testing, evaluation. If in the course of this process (which may have to be repeated several times) a satisfactory result can finally be generated, the resulting (by then thoroughly tested) innovation will be implemented in the entire Laborschule practice. In addition, it will be fed back into the reference systems mentioned earlier. This can happen through transfer to other individual schools or through dissemination of the obtained results in educational science and educational policy.

This type of research and development at Laborschule is organized and structured in distinct research and development projects (R&D projects), which are summarized in a special research and development plan, and are generally multidisciplinary: Most research and development projects involve teachers from the School Unit ("teacher-researchers") and scientific staff from the Research Unit. Some projects also involve other pedagogical staff from Bielefeld – in particular from the Faculty of Education. In this context, it is crucial that all persons involved in the research take on "double roles": The employees of the School Unit act both as practitioners and as researchers, while the members of the Research Unit participate both as researchers and as members of the school. This means that although they do not teach, they are actively involved in school development processes, for example by (co-)designing internal teacher training courses or by being involved in the design of teaching concepts, curricula, and so forth.

In practice, however, the tasks that need to be carried out within each project are sometimes distributed a little differently: Some teachers of the School Unit are also experienced researchers, some of them with a doctorate, who can also take on the role described above as that of the researchers who are employed at the university. This means that some research and development projects are actually carried out—at least temporarily—without involvement from researchers at the university. Conversely, some of the participating researchers themselves have previously worked as teachers, networked with mainstream schools through research contexts and training activities, and in this way also have a close relationship to practice in regular schools. This degree of professionalization on both sides is achieved precisely through institutionalized cooperation between the School Unit and the Research Unit – in particular through the fact that teachers

3 See Textor et al. (2020) and Zenke et al. (2019) for more details on this and the following.

from the School Unit are repeatedly delegated to the Research Unit for temporary research assignments.

Methodology

To explore how the pandemic affected research and development activities at Laborschule and how the researching teachers coped with the challenges caused by the pandemic, the authors conducted interviews with six teachers from Laborschule. Those teachers were involved in research activities before and during the pandemic and are still working on research projects. In selecting the interview partners, attention to gender parity was paid (four women and two men due to the higher share of female teachers in school) and both teachers with and without leadership positions in the school as well as teachers from the primary and secondary levels were interviewed.

The interviews were based on a semi-structured interview guide⁴. This interview guide is based on three main questions that followed the timeline of the pandemic:

1. *Before the pandemic:* In the beginning of the interviews, participants were asked for a brief outline of how research work was integrated into their everyday work *before* the pandemic. Specifically, they were asked for their experiences with the structures, processes, and content of research and development (R&D) work at Laborschule before the pandemic.
2. *During the pandemic:* In a second part, the interview partners were asked about the impact of the pandemic on their projects and about how they tried to cope with the changing situation. The interviewer was advised to make sure that the participants mention work structures, procedures, and contents; otherwise, they were asked about this.
3. *Outlook on post pandemic times:* In the last part, the interview partners were asked for their individual outlook on the near future of the research and development projects at Laborschule. An emphasis was set on the consequences (and gains) the interview partners have from the pandemic situation.

As the interviews were meant to be open for the individual experiences and issues of the interview partners, and as the research group intended to analyze them with a qualitative approach, this guide was not used as a standardized interview schedule: the interviewer was free to ask further questions or

to summarize some of the statements of the interviewees if necessary.

The interviews took place at Laborschule in spring of 2022. As the authors of this article are involved in research and development processes at Laborschule, the interviews were conducted by an external university assistant. She was familiar with the procedures of the research work at Laborschule and was thus able to ask authentic questions during the interview, but she was not involved in the research work during the pandemic. The aim of this design was to create the possibility for teachers to report critically on research work processes. The interview partners were aware that a team of researchers of the Laborschule Research Unit would analyze the data. The research group analyzed the material with the help of qualitative content analysis. This method was chosen because it allows large amounts of data to be processed, and makes it possible to work out manifest text components, latent meanings, and subjective interpretations in a rule-guided manner and thus in a way that can be verified intersubjectively (Mayring & Fenzl, 2014). Also with this method data can be analyzed with both deductive and inductive categories. Because of the wide lack of theory and research on school development during the pandemic, inductive categories were generated from the material in the process of the analysis. Main categories and subcategories were formed by reviewing, paraphrasing, and reducing the material (Kuckartz, 2018). The following presentation of the results is structured according to the main categories of the category system. Each section addresses one main category. Within these main categories the presentation and interpretation is made along the subcategories. Each section begins with an overview of the categories.

Analysis and Discussion of Findings

Following the procedure described above, five main categories were reconstructed from the interview material:

- Descriptions of the **basics of their R&D** (research and development) projects;
- General **reflections on** the process, the results, the organization, and the personal relations in the **R&D** projects;
- Description of the organization and contents of **R&D work before pandemic**;
- **Influence of the pandemic on** the organization and the content of **the R&D** projects as well as on teaching and school life; and

⁴ The interviews were conducted in German. The quotes were translated for this publication. The original quotes can be requested from the authors.

- **Conclusions for the future** of R&D projects which includes considerations about the R&D-processes in school as well as the future of school and teaching.

1. Basics of R&D
1.1 Digression into the contents of R&D
1.2 Framework conditions
1.3 Basic thoughts about research in school
1.4 Mission
1.5 Relationship of school practice and research
1.6 Understanding of R&D

Table 1: Topics of R&D

During the interviews, the interviewed teachers spoke about their research and development activities to explain what they do and which school and research projects they are involved in. One teacher gave a deep insight into the content of her R&D-project; other teachers named the framework conditions for their R&D-activities like the reduction of lessons or the support they receive from the university. This category furthermore includes general thoughts about R&D-activities in school which, for example, describe the benefits of the teacher-researcher model:

[B]ut I am still ... convinced that I picture the teaching differently from someone who is not in practice at all and is only a researcher – that is what they do on a daily basis: imagine what the teaching is like and what it could be like – and we as teacher-researchers come out of the practice and do it.”

Other statements described the mission the teachers feel while working in R&D activities. Those activities aim to improve the school and the school system; the teachers ask what “improvement” precisely could mean: “And I think that you need to reflect more than ever: what life is really about. And there you need someone who exemplifies it, and I think that is our role.” During many passages in the interviews, the teachers talked about the relationship between everyday school life and the demands the R&D-activities put on them. They described the balance between teaching and caring about their classes and pupils on the one side and researching on the other side as a “field of tensions” and said they were afraid not to fulfill research activities “well enough.”

Some teachers also formulated general understandings of R&D work: In their view it is crucial to discuss the issues controversially. On the other hand, some teachers said that it is a benefit of the institutional framework of Laborschule to have

more freedoms granted by the state government in working with the pupils, for example, concerning curricula. Therefore, they can focus on the needs of the children and youths “not because we are supposed to perform, but because we are the way that we are, I would say.”

2. Reflections on R&D
2.1 Research problem
2.2 Reflection on results of R&D
2.3 Reflection on process of R&D
2.4 Reflection on own teaching
2.5 Reflection on organization of R&D project

Table 2: Subtopics of Reflections on R&D

Because of the high emphasis on reflection in German teacher education and because of their role as a teacher-researcher at the Laborschule (which includes reflection on everyday practice), the interviewed teachers are used to reflecting on their work. This could be the reason why the interviews contain many reflective passages on the research and development work that they do as teachers. The interviewees reflected on how they select research questions, on the organization of the process of the R&D projects, on the personal relationships in the projects, on their results, and on their research and development activities in general.

One teacher from the R&D group *Sociocracy in Laborschule* stated:

We also realized, that there are some decisions where it doesn't make any sense to do it sociocratically – when someone is in charge and needs to make decisions, then he has to make them or make them for others – but how can you communicate this or make this transparent so that everyone can follow?”

Another teacher also reflected on her teaching and the impact of the R&D activities on her teaching when she says that she uses some methods she has learned in the context of R&D project in her teaching. This suggests that, from their point of view, teachers learn a lot while conducting R&D projects, and the results of their R&D projects do make sense in their everyday school life from their perspective. In particular, the statements of our interview partners indicate that conducting R&D projects in the mode of participatory action research enhances their ability to reflect what they perceive and what they do.

3. R&D work before the pandemic
3.1 Organization of R&D work before the pandemic
3.1.1 Organization of the collaboration between school and university
3.1.2 Description of organization
3.1.3. Distribution of tasks in the R&D project group
3.2 Contents of R&D work before the pandemic
3.2.1 Content of R&D projects before the pandemic
3.2.2 Transfer to the own school and implementation before the pandemic
3.2.3 Completed work items from R&D projects from before the pandemic
3.2.4 Plans of the R&D project group before the pandemic
3.2.5 Aims of the R&D project group before the pandemic

Table 3: Subtopics within R&D during the pandemic

Under this category, all statements that are explicitly associated with the time before the pandemic were aggregated. Participants described the organization as well as the content of their R&D projects before pandemic. Many findings about the organization of projects dealt with either the collaboration of university and school or the distribution of tasks in the project groups, so those findings were gathered up in an own subcategory. The applications for the R&D projects, which contain a working plan, can help, as one teacher states:

So – uhm – we had – these regular meetings, sessions – had this working plan as a blueprint and knew approximately when we wanted to work on what – decided that together. Everyone got their tasks and responsibilities that they were supposed to handle. And we actually – at least in the first phase implemented it this way.

Furthermore, in all interviews the teachers briefly introduced the subject of their research when interviewed; for example, an interviewee stated that “[t]his was about the counseling team. And that is basically about the concept of our counseling—collegial case counseling here in the school. And there we interviewed colleagues from different key stages.”

Other aspects related to the projects that interviewed teachers worked on before the pandemic include aims and plans for R&D activities as well as the completed work items: “We planned this, executed this, and evaluated it. We conducted interviews with colleagues about their happiness and the course of these things. We concluded from this how we could continue.” There is a wide range of aims for these activities, including “strengthening” the children to help them feel safe in their lives and cope with challenges, or finding

new ways of decision-making in meetings and conferences at Laborschule. The teachers also talked about questions of implementation and dissemination:

And then we trained the teaching staff from House 1 [younger children] in a first training. We needed to plan this specifically beforehand and then did it. And then there mwas, before I started, an in-depth training again during one of our staff meetings, where I presented very precisely how one could do it, how I will do it and how you could also do it.

The implementation strategies the teachers reported are quite different; some projects work with the teachers and with parents, other projects modify structural aspects of the school or the school curriculum. In conclusion, the interviews show the relevance of reliable time and working structures, and they suggest that the participatory action research model of Laborschule, which emphasizes that the research question has to emerge from school practice, leads to a high commitment of the researching teacher, as the R&D projects meet their interests and problems.

4. Influence of the pandemic on R&D
4.1 Crisis as an empowering factor
4.2 Influence of the pandemic on teaching and school life
4.2.1 Demands of the school during pandemic
4.2.2 (Digital) Media
4.3 Completed work items of R&D project during pandemic
4.4 Influence of pandemic on organization and collaboration in the R&D project group
4.4.1 Organization of work during pandemic
4.4.2 Challenges during pandemic and lockdown
4.4.3 Description of crucial changes in R&D projects due to lockdown
4.4.4 Coping with crucial changes due to the pandemic
4.4.5 Emotions in relation to work during the pandemic
4.5 Influence of the pandemic on the content of the R&D project group
4.5.1 Influence on R&D products
4.5.2 External transfer and dissemination during pandemic
4.5.3 Transfer to own school during pandemic
4.5.4 Contents of school development during pandemic
4.5.5 Influence of pandemic on purpose of research

Table 4: Subtopics of pandemic influence on research

The teachers named many impacts of the pandemic on research and development. Many of these findings contained

challenges, and in every interview several descriptions of harsh changes because of the pandemic could be found: “And uhm—then it stopped—right in the middle of it” or “Not at all. During COVID it didn’t continue at all. And that is very hard to justify.” On the other hand, some passages described an empowering effect of the pandemic:

And COVID made it easier than I thought: if I don’t do it now... But now it’s a crisis, now is not normal and then I had more courage, that’s what it was like. And I became, because it didn’t work any other way, unbelievably clear, also in working on track, because I couldn’t do it any other way. And that is also something COVID did.

When the teachers spoke about the demands of the school during the pandemic, it became visible how deep the lockdowns and the restrictions related to the pandemic influenced their work. The teachers report how they had to adapt to the different modes of schooling during the pandemic and how they struggled to support their pupils in their challenging everyday life. They also describe the huge workload caused by the changing demands, but also by the comparatively high number of teachers who were sidelined because of diseases or pregnancy (pregnant teachers were not allowed to work in school because of COVID-19):

[W]ell, for us it was like this, because the overload was just too big and we needed to set priorities. And that was the everyday school life: organizing, leaving no one behind, getting something straight here, do a video conference there, drive to a child’s home: are you alright – didn’t have any contact – what about your parents? What are you up to?

The teachers described that they did not have the capacity to engage in R&D projects under these conditions:

And we had – I had different things on my plate in my role as a class teacher in year 10. If someone would have said ‘Now you need to do R&D’ or ‘Keep going’ or something like that—I would have—there were no resources for that—zero.

Still, the teachers reported some R&D activities like translating materials in other languages or conducting interviews. They stated that they got more and more used to collaborating using digital tools (e.g., video calls) the longer the pandemic lasted—but nevertheless, the premise for successful

collaboration while working remotely was to have a team that is used to getting along with each other.

A tremendous challenge for teachers during the pandemic was the organization of collaboration. All respondents reported challenges, and many findings are correlated with such challenges. For example, they missed the so-called “famous coffee machine talks”—very informal face-to-face situations, which usually allow the teachers to sort out things quickly – and they reported a lack of time, real collaboration, and capacity:

To an extent, what we did in the R&D project was basically: let’s talk about this, how will we continue? And then everyone did their part, and we wrote emails: I am currently doing this, what are you doing? But having a relaxed meeting, that’s something we haven’t had in a long time because we just don’t have the time.

According to the perceived challenges, the interviewed reported different strategies of coping, depending on the issue in the different projects. Some projects were able to adapt easily to the new situation: “The work continued during the pandemic, by the way. In part through text-based interviews. That works as well. You send questions—you get answers”; other plans that contained targets of school or teaching development were more difficult to adapt or had to be postponed. One teacher describes very intensively her feelings of being afraid to resume her R&D activities after the lockdowns, and at the same time recalls being very proud of the good work and the good ideas with which she kept in touch with her students during the lockdowns.

5. Conclusions for the future
5.1 Regaining awareness after the pandemic
5.2 Request and wishes for specific R&D contents
5.3 Integration of digital media
5.4 Requests and wishes for the relationship between university and school
5.5. Importance of pupil-centered work
1.6 Understanding of R&D

Table 5: Subtopics of future research

Asked for an outlook on post-pandemic times, the participants emphasized the relevance of face-to-face interaction. They hope to keep the use of digital media for situations that are suitable for distance communication, and they state that it is a benefit of the pandemic to be familiar

with digital distance communication tools such as video calls; however, they also clarified that the range of use of digital communication is limited. Accordingly, the teachers insisted on the physical presence of the colleagues of the Laborschule Research Unit, which is not part of the school, but part of Bielefeld University:

And I would want that to keep going in the future – that there is a regular presence of people here in the school, because that is what school thrives on—on encounters. That is what colleagues expect from encounters with the Research Unit. And that’s why it’s important to me that the people are there in person. That’s what colleagues expect from encounters with the Research Unit. And there is—the Research Unit installed this [mode of presence] so to speak.

This quote concisely mirrors the relationship of Laborschule Research Unit (part of Bielefeld University) and experimental school Laborschule (school): The Research Unit is mainly located in the university, but the projects of the Research Unit are located in the school and conducted together with teachers. So to keep a continuous contact with the teacher researchers, which has to go beyond the collaboration in projects to get a solid base for conceptualizing and conducting joint research projects, the Research Unit uses one room inside the school as a shared office. Obviously, for the interviewed teachers this availability of university researchers is crucial for the ongoing collaboration, even though there are many more ways to communicate than just face-to-face.

Another issue one of the interviewed teachers described in a metaphoric way is that of joint values and joint visions. As the teachers did not meet physically during the lockdowns, everyone “was sputtering by him-/herself,” so now, the teachers of Laborschule have to “grow together” again, which also includes developing joint values and joint visions of schooling.

The teachers state that this process of developing joint values and joint visions needs some extra time – and leisure, to let new ideas emerge. This need has two aspects. The first aspect is a general desire for deceleration: “And yes, you also get money in return. But it’s not about the money. The people here, they do it because of the visions that they want to implement. And you need the time for that.” The second aspect of time is more organizational: Nearly all interviewed teachers wished that there were time slots put aside for working in the R&D projects. This second aspect also came up in many meetings with the school and the Research Unit

in which the research at Laborschule was a topic, so it is unsurprising. Still, the composition of the school’s timetable is complex, so until now no possibility to implement such a time slot has been found.

Conclusions and Recommendations

The interviews show that there is a wide range of considerations for the R&D work after the pandemic. Two central factors could be carved out: time and deep exchange from person to person, which needs presence and can hardly be organized by digital means. This includes time to think and exchange ideas about values and visions, time to listen to and speak with the pupils, and time to let all of this collaboratively influence research and development. This could be gained from a reliably functioning framework that consists of efficient structures for the use of time and equipment. All in all, the pandemic significantly influenced the organization of R&D activities, but surprisingly had little impact on the content of the projects.

Besides general considerations and reflections on their research and development activities, the interviewed teachers described the pandemic and the lockdowns as a break, which affected not only their teaching, but also their R&D activities crucially. Obviously, the lockdowns hindered such processes that depend on personal collaboration, but they also accelerated processes of reflecting on what is important in school life. Now, in the aftermath of the pandemic, the interviewed teachers ask for a process of coming to an understanding of joint visions and aims of R&D activities at Laborschule. This requires time—time to listen, time to speak with pupils and school colleagues, and time to think.

Through the analysis of the interviews it has become clear that even without the aggravating circumstances of a pandemic, research work in the teacher-researcher model is challenging. For the teachers involved in the research, it is often a great challenge to reconcile their pedagogical mission towards the pupils and their role as researching teachers. The pandemic intensified the pedagogical challenge for the teachers and at the same time made the close cooperation (also spatially) between teachers and researchers even more challenging than before. Considering this background, the Research Unit Laborschule has started a school-wide process for initiating new R&D projects with a special focus on personal exchange and creating spaces for informal encounters and professional dialogue.

All in all, Laborschule can be understood as a model for a “Lernende Schule” (learning school): This is a school that is not only a place for pupils to learn, but also an organization that learns itself (Rolff, 2013, p. 33). In this sense, our

findings suggest a high relevance of institutionalized spaces for structured participation of teachers to help to improve their school. Against this background, it seems important to us to carefully balance between free spaces for such a form of school development and obligations to use them accordingly—especially when the social framework conditions change abruptly: “This is not normal—right—how do you set up these structures again that everyone can get into? I think that just takes a bit”⁵

Key take-aways:

1. Research in school needs presence.
2. Research in school needs time.
3. Appropriate organizational structures help to provide presence and time.
4. Research in school helps reflect on values and visions.

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Understanding the Pandemic Learning Experiences of Parents and Teachers at the Dr. Eric Jackman Institute of Child Study Laboratory School: A Case of Unique Philosophies

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The Philosophies of the Dr. Eric Jackman Institute of Child Study Lab School

The Dr. Eric Jackman Institute of Child Study Laboratory School (JICS Lab School) is an elementary school at the University of Toronto in Canada that aims to provide a model of excellent elementary education, teacher training, and child development and education research. The JICS Lab School chiefly centres its educational practices on philosophical tenets of security and attachment from its first director, Dr. William Blatz and his mentee, Mary Ainsworth (Ainsworth et al., 1978; Blatz, 1966; Bowlby, 1982; Volpe, 2013). According to Blatz, being “secure” means that children have the confidence to handle the consequences of their actions to explore, make decisions, and take risks while tolerating the anxiety that comes with feelings of insecurity (Wright, 2010). As children navigate the world, they learn to depend on adults who they perceive as successful with coping with insecure states (Blatz, 1966). While parents take the natural models in the home environment, Blatz indicated that teachers take on the role at school (Blatz, 1966). Ainsworth carried several aspects of Blatz’s security theory into her work with John Bowlby and his attachment theory (Bowlby, 1982). Namely, Ainsworth stipulated that a child needs a sensitive and responsive (or “secure”) connection with a parent to develop into a healthy individual (Ainsworth et al., 1978). In doing so, children grow to have the confidence to explore the world, learn new skills, and acquire knowledge (Ainsworth, 2010; van Rosmalen et al., 2016). The JICS Lab School promotes a learning environment based on secure relationships with educators, so children can confidently learn yet be creative and think critically without fear of judgment. Thus, the school fosters a culture in which all members, including parents and teachers, feel known, respected, and supported as active participants in the community. Throughout the pandemic, these beliefs remained central as guiding principles in which the school made

decisions while navigating the difficulties that arose from the COVID-19 pandemic.

COVID-19 Pandemic and JICS

In March 2020, the Ontario government shut down schools to limit the spread of the COVID-19 virus in the community, which halted in-person learning at the JICS Lab School (Baker et al., 2021; Jeffords, 2020). Since then, JICS educators, children, and parents have faced (and continue to endure) numerous, unprecedented changes associated with the pandemic. Some novel procedures included using personal protective equipment (PPE) and implementing technology platforms for instruction and communication (e.g., OneNote, Microsoft Teams, Seesaw). The unusual circumstances of the pandemic on the JICS Lab School’s operations led to the coining of the term *pandemic learning* to capture the ongoing educational experiences affecting its community members. One critical aspect of pandemic learning involved forcing parents and educators to work more closely to support children’s education while navigating personal challenges and responsibilities (Baker et al., 2021; Bhamani et al., 2020; Kenny et al., 2020; Sokal et al., 2020). For instance, pandemic learning necessitated repeated transitions from in-person learning to remote learning during several waves of community spread of COVID-19 (Kenny et al., 2020, 2021). Notably, this pivoting resulted in parents’ and teachers’ shifting roles and responsibilities in facilitating lessons and promoting children’s academic engagement (Bhamani et al., 2020; Kenny et al., 2020, 2021). Moreover, these revolving changes associated with pandemic learning likely caused adverse effects on the emotional well-being of parents and teachers (Baker et al., 2021; Bhamani et al., 2020).

Pandemic Learning and Parents' and Teachers' Mental Health

Research describing the effects of the pandemic on learning points to its negative impact on parents' and teachers' mental health (Baker et al., 2021; Kim et al., 2022; Prime et al., 2020; Sokal et al., 2020; van der Spoel et al., 2020). For example, large-scale longitudinal Canadian and international studies have highlighted amplified mental health concerns, including increased anxious and depressive symptoms, suicidality, and substance abuse (especially among men) among parents with children under 18 (Adams et al., 2021; Gadermann et al., 2021; Kenny et al., 2020; Russell et al., 2020). In particular, a Canadian survey found that over 50% of parental respondents attributed their high-stress levels to managing students' learning (Kenny et al., 2020). In addition, surveyed parents flagged other challenges, such as managing work-life balance and concerns about their child's (or children's) learning and emotional well-being (Adams et al., 2021; Kenny et al., 2021). Similarly, longitudinal surveys and interviews revealed a comparable deterioration of emotional well-being among teachers (Kim et al., 2022). Teachers cited increased job demands, the uncertainty of the future, concern for children's well-being, and juggling multiple roles as contributors to their declining mental health (Chevalier, 2020; Kim et al., 2022; Sokal et al., 2020). To help cope with these challenges, both groups cited time away from screens, social support, and self-care (e.g., mindfulness, exercise, journaling) as useful coping strategies (Adams et al., 2021; Baker et al., 2021; Kim et al., 2022; Sokal et al., 2020). Some respondents also identified surprise benefits like increased family time and work autonomy (i.e., time flexibility working from home) of pandemic learning (Adams et al., 2021; Kim et al., 2022). Despite the named resources and surprise benefits, the overall trend suggests that parents and teachers collectively encountered difficulty adjusting to pandemic-related shifts in their new roles.

Despite these pervasive adverse effects of pandemic learning on parents' mental health, experiences differed significantly depending on individuals' perceived level of support and connection within the school community (Baker et al., 2021; Sokal et al., 2020; van der Spoel et al., 2020). For example, one study paradoxically found that teachers who perceived more school and administrative support experienced greater cynicism and exhaustion (Sokal et al., 2020). However, in another study, teacher respondents named school and community support as a "protective factor," buffering against feelings of stress and burnout (Baker et al., 2021). Given these contradictory results, we were interested to better understand how the school environment may influence parents' and teachers' experiences with pandemic learning within a school

environment that prioritizes its community members' feelings of security and attachment.

Parents' and Teachers' Experience of Pandemic Learning and JICS Philosophies

Since the initial shift to pandemic learning in March 2020, the JICS Lab School has employed different education practices informed by their philosophical notions of security and attachment. For example, the school emphasized children's security and attachment needs in an evening presentation given to parents and teachers shortly after the provincial government mandated the closure of schools in March 2020. One key recommendation included minimizing academic expectations such as reducing on-screen time to enable parents to focus on the needs of their children rather than the responsibilities of managing their children's learning. Similarly, the administration validated the shifting relational dynamics between teachers and their students by championing their efforts during the pivot to virtual learning. This practice aligns with the school's principle of prioritizing sensitive and responsive parent relationships (Ainsworth et al., 1978; Blatz, 1966; van Rosmalen et al., 2016). As restrictions eased and in-person learning resumed, the school continued to champion children's trusting and caring relationships with their teachers, creating dual cohorts per grade to reduce the child-teacher ratio and minimize contact with other students. This practice meant hiring additional novice teachers (i.e., "Team Teachers") to support the dual cohort and classroom teacher's needs in the face of increasing work demands. The school also sought to ensure community members felt safe entering the school by installing a new air filtration system and enacting rigorous screening processes. In addition, the school hosted various virtual school social events (e.g., Zoombilee, Festival of Light, Music Night, and Book Night) to enable greater feelings of connection between students' homes and the school community. In addition, educators made themselves available between lessons and after hours to support parents and their JICS colleagues. Finally, the school administration maintained frequent and transparent communication with families amidst changes to provincial pandemic mandates and school procedures.

By placing philosophies of security and attachment (Ainsworth et al., 1978; Blatz, 1966; Bowlby, 1982) at the centre of the schools' response to pandemic learning, the JICS Lab School began a unique course of pandemic learning. Additionally, as a leader in laboratory school research and education, the JICS Lab School provides a rare environment where researchers can closely

monitor the experiences of its community members. Thus, an in-depth investigation of the experiences and emotional well-being of JICS parents and teachers and the relationship between JICS' philosophical approach and pandemic learning within this unique context is warranted. Understanding how JICS philosophies may be related to the lived experiences of parents and educators supporting children's learning over the first two years of the pandemic can inform education practice during future emotionally stressful times and shed light on JICS's distinctive philosophical approach to education.

Research Problem & Question

The present study used a qualitative case study approach to understand parents' and teachers' experiences supporting children's pandemic learning at the JICS Lab School from Spring 2020 to Fall 2021.

The study's first aim was to gain insight into their teachers' and parents' lived experiences, such as the challenges, coping responses, changes, and surprise benefits of pandemic learning. Based on prior literature, we anticipated that parents and teachers would report difficulty managing remote learning and work-life balance, express concerns about the pandemic's adverse effects on children's education and well-being, and report anxiety over future uncertainties (Adams et al., 2021; Chevalier, 2020; Kenny et al., 2021; Kim et al., 2022; Sokal et al., 2020). Respondents would also identify disconnecting from screens, social support from family, friends, and colleagues, and self-care rituals as helpful coping strategies (Adams et al., 2021; Baker et al., 2021; Gadermann et al., 2021; Kim et al., 2022; Sokal et al., 2020). Finally, we predict that both parties will name increased time spent with families and work autonomy (i.e., time flexibility working from home) as surprise benefits of pandemic learning (Adams et al., 2021; Kim et al., 2022).

The second aim was to examine parents' and teachers' perceptions of how JICS's security and attachment philosophies contributed to their experiences with pandemic learning. The hallmark of security and attachment theory posits the need for children to form a trusting and caring relationship with a "secure base" (e.g., parent or educator) from which they can safely explore, acquire new skills, gain knowledge, and emotionally prosper (Ainsworth et al., 1978; Blatz, 1966; Bowlby, 1982). Thus, we predicted that JICS parents and teachers would provide information on how the school's philosophical-driven pandemic approach contributed to the learning and well-being of the children

amidst the changing and uncertain times of pandemic learning. Moreover, we expected respondents to explain how the school's philosophies and response to the pandemic helped them manage the emotionally stressful transition to pandemic learning.

The potential implications of the findings from this study are several. First, information gathered seeks to give voice to the sometimes-forgotten players supporting children's education, like parents. Second, we hope to provide possible explanations for why some parents and teachers remain emotionally resilient despite pervasive mental health concerns during the lockdown. Finally, these findings will be valuable for informing future education planning at the JICS Lab School by chronicling how parents' and teachers' experiences supported pandemic learning within a uniquely philosophically driven education environment.

Methods

Procedure

Before conducting the study, the protocol was approved by the university's research ethics board, and we obtained consent from the JICS administrative staff and research committee. Both parties agreed to the study of using the data for both program planning and research purposes. After receiving permission, the JICS administration distributed an email to all JICS teachers and parents (approximately 220 individuals from nursery to grade six) about the study with a survey link in late Summer 2021. The survey link re-directed participants to a secure survey platform, CheckMarket, where they provided consent and completed six to seven open-ended questions. The survey had a two-tiered consent process, where participants were first given the option to consent to participate either solely for program planning or for research *and* program planning purposes. Participants who agreed to participate in the research were subsequently asked for their consent to be contacted if their quotations were chosen for publication. The survey link was closed in mid-Fall 2021. Only participants who consented to share their responses for both program planning and research purposes were included in the study. No compensation was provided as participation in research is acknowledged as part of the school's mandate.

Measure

Survey Development

The survey questions were developed with all co-authors from Spring 2020 to Spring 2021 to reflect the comprehensive

experiences of the JICS community. Key questions regarding participants' experiences were derived from an early survey sent to JICS parents in Spring 2020 by the JICS administration to understand their perspectives on virtual learning. Additionally, given the school's interest in child development and education, the authors included a question exploring participants' perceptions of the effects of the pandemic on children's learning and development. A question about what teachers learned about supporting children's well-being or engagement was also included.

Survey Components

The survey was divided into two parts (See Appendix A). The first section addressed the study's first objective by exploring participants' experiences with pandemic learning from Spring 2020 to Fall 2021. This section asked JICS parents and teachers about obstacles they faced, how they coped with them, how their approach to pandemic learning shifted, and the surprise benefits. The first section also asked participants how they perceived the effects of pandemic learning on children's development and education. The second section addressed the study's second objective, looking at how participants viewed the relationship between the school's philosophies and their own experiences in supporting children's pandemic learning. Teachers were additionally asked how the JICS philosophies were related to their instructional approaches during the pandemic.

Moreover, the survey asked participants to provide details and examples to elicit meaningful and in-depth responses. Given the small JICS community and ease of identification, participants were encouraged to use discretion when responding to the survey questions, especially when identifying themselves, children/students, other parents, and JICS staff members (e.g., names of staff members, child grade, grade taught, number of children, diagnoses).

Participants

Sixty-one participants (48 parents, 13 teachers) who provided consent for research and program planning purposes responded to the survey. Of all the respondents, only one parent opted to have their responses used solely for program planning. While only limited teacher demographic information (e.g., years of experience, age, gender) was collected to protect participants' anonymity, teachers' responses reflected various teaching backgrounds, including early years, grade school, and specialty teachers (e.g., languages, arts, special education). Generally, JICS teachers range from early mid-to-late career staff with various teaching backgrounds that share

the school's guiding educational philosophies. In addition, some teachers are on secondment from the regional public-school board. Similarly, the breadth of parents' responses demonstrated a range of unique family structures and child profiles (e.g., financial, single parent, number of individuals in the household, child diagnoses). JICS parents are a part of an "intentionally diverse" school community who register their child/children at JICS as they subscribe to the school's public purpose and philosophical approaches to learning. Given the school's research mandate, the school attracts a community of children from various family structures (e.g., two- and single parents, divorced), cultural and ethnic backgrounds, and learning abilities. However, as many families can afford the school's private tuition, it is likely that they are well-resourced.

Analytic Approach

All survey data were analyzed using a phenomenological approach with N-Vivo 12, a software used to identify qualitative data themes. Themes were coded using theoretical understandings of acute stress on family and school systems and the development of psychopathology (Juth et al., 2015; Kerns et al., 2014; Masten & Narayan, 2012). Namely, pattern matching was used to compare the themes within each research aim with anticipated results and potential rival explanations, as evidenced by previous studies on parenting stress and teacher burnout during the pandemic (Adams et al., 2021; Chevalier, 2020; Kenny et al., 2021; Kim et al., 2022; Sokal et al., 2020). This process was like other case study approaches that have examined parents' experiences coping with pandemic learning during the COVID-19 pandemic (Bhamani et al., 2020). Thus, we reviewed participants' responses several times to familiarize the coder with the material. Afterwards, phrases were highlighted that were indicative of recurrent themes. These phrases were later collated and separated into themes that emerged, which were like themes from previous research (i.e., "Challenges managing school and personal responsibilities," "Concerns for children's well-being and development," "Burnout") (e.g., (Adams et al., 2021; Chevalier, 2020; Kenny et al., 2021; Kim et al., 2022; Sokal et al., 2020). Initially, respondents' responses were coded separately. However, upon realizing similarities between themes, a schematic figure or diagram mapping out the themes and their relationship with one another was created (See Figures 1 to 3). Separate diagrams were created to realize the patterns of respondents' challenges with pandemic learning, coping strategies, and surprise benefits.

Positionality. The first author (MK) is a graduate student studying school and clinical child psychology with training in quantitative and qualitative analytic approaches. The author

has previously worked closely with JICS and is familiar with the educational philosophies and procedures of JICS. However, the author was not involved in the school's operations throughout pandemic learning except for coordinating with the JICS administration to conduct the present study. The secondary coders (RM and ACB) are similarly positioned with experience in quantitative and qualitative research and expertise in child development and education. Other co-authors (CB, RM, and EM) are current or former JICS administrators who lent their knowledge on JICS operations of pandemic learning. They reviewed the present study's general themes to ensure consistency with the school's actual procedures and provincial mandates.

Validity Checking. The following themes were double coded by the second and last authors using select quotes from the respondents to ensure coding consistency and accuracy. Findings were then presented to the director of JICS, removed from the entire research process, who reviewed the results and manuscript before publication. Upon conflicting opinions of general themes, the themes were brought up with co-authors familiar with the participants' experiences (CB, RM, and EM) who had the final opinion of themes.

Findings

This section is organized by the study's objectives and subsequent themes. The first section combined findings from the first component of the survey, which summarizes participants' experiences of pandemic learning from Spring 2020 to Fall 2021. The second section incorporated findings from the survey's second section, which looked at how participants viewed the relationship between the school's philosophies and their experiences supporting children's pandemic learning.

How did JICS teachers and parents experience pandemic learning from Spring 2020 to Fall 2021?

JICS Teachers' and Parents' Perspectives on Challenges Encountered During Pandemic Learning

JICS teachers and parents identified similar challenges during the initial year and a half of pandemic learning (See Figure 1). Firstly, respondents identified the challenge of managing school and personal responsibilities. At the start of pandemic learning (i.e., Spring 2020), teachers and parents identified many logistical challenges during the abrupt pivot to virtual learning, including difficulty learning and adapting to new technology. Many parents and teachers also described challenges in managing student disengagement during

virtual learning, especially with young children. Secondly, respondents expressed concerns regarding the effects of pandemic learning on children's well-being and development. Notably, many cited worries about children's loneliness due to the lack of socialization during virtual learning and restrictions during in-person learning. In addition, some parents and teachers observed children's difficulties with mental health, including increased anxiety, somatic complaints, and social withdrawal. Thirdly, respondents identified emotional burnout as another challenge throughout the first year and a half of the pandemic. Both types of respondents partially attributed this burnout to the additional workload from managing children's virtual learning, especially in Spring 2020. However, teachers identified the frustration of virtual approaches conflicting with personal teaching beliefs and children's education as another source of their burnout. Some parents, on the other hand, attributed emotional burnout to unique individual-level challenges (e.g., financial, family conflict). Finally, two additional challenges identified by both parents and teachers included fear of contracting COVID-19 and uncertainty about the future due to constantly changing safety mandates and guidelines in the schools and the community.

JICS Teachers' and Parents' Coping Strategies and Perceived Surprise Benefits Encountered During Pandemic Learning

Respondents also indicated some practical coping strategies during and surprise benefits of pandemic learning (See Figures 2 and 3). First, they revealed how educator and administrative support was the most helpful in navigating the challenges of pandemic learning. Teachers expressed how connecting and collaborating with other educators (e.g., Team Teachers) and the administration's validation helped them feel supported while they coped with the difficulties of teaching. Parents felt that communication and support from JICS educators and administrators also helped them feel connected and knowledgeable of the proceedings of pandemic learning, despite the frequent changes from the safety mandates. Many parents also expressed great appreciation for the teachers' dedication and effort despite the limitations of pandemic learning. Secondly, respondents cited the need to disconnect from screens and work to deal with the blurry boundary between their work and personal lives. Both teachers and parents conveyed the importance of time spent outdoors in helping them disconnect from work. Other pursuits involved exercise, self-care, indoor activities, and personal hobbies. Thirdly, many respondents felt that their acceptance of the limitations of pandemic learning and themselves helped them to cope with the stressors of the situation. For instance, many

parents learned to give their children more independence by following their lead during virtual learning. Teachers also reported needing to let go of their high teaching expectations. Fourthly, both types of respondents shared how they learned to adapt to pandemic learning. Teachers optimized their teaching pedagogy over the second year of pandemic learning (i.e., prioritizing high engagement activities during remote learning, flexibly and more aptly utilizing virtual activities and platform features), while parents created routines and adapted schooling to suit the individual learning needs of their child/children. Finally, participants cited the helpfulness of the community and additional support. JICS teachers and parents found school socials helpful in fostering a sense of school community throughout pandemic learning. Outside of school, participants enjoyed connecting with friends and family. Some parents found it beneficial to hire additional help for childcare and tutors to supplement school instruction.

In terms of benefits, JICS teachers and parents identified learning new technical skills on the computer as a benefit to pandemic learning. They became more proficient in navigating communication platforms (e.g., Zoom) than before pandemic learning. Next, both teachers and parents described how children acquired valuable independent learning skills during virtual learning. They were pleasantly surprised by how children demonstrated independence in troubleshooting technical issues and followed virtual lessons with minimal guidance. Thirdly, respondents shared the benefit of how virtual meetings increased accessibility for them to attend school meetings. Finally, respondents indicated that pandemic learning resulted in more time spent with their families.

How were JICS's philosophies of security and attachment related to the pandemic learning experiences of parents and teachers supporting children's learning?

Security and Attachment Prioritized during Pandemic Learning

Parents and teachers articulated the immense difficulty of balancing competing needs and roles, including personal needs, caregiving needs, and academic wants and expectations (See above or Figure 1). However, respondents highlighted how the school's philosophies were related to their decision-making, especially in Spring 2020 during the abrupt pivot to pandemic learning. Notably, the school's philosophies helped JICS administrators and teachers make quick instructional decisions in scenarios when children's feelings of security and attachment conflicted with academic expectations. For instance, during Spring 2020, JICS teachers and administration implemented asynchronous learning and made

student engagement the minimum expectation, in alignment with the school's philosophies of security and attachment. In addition, JICS parents appeared to appreciate how the school's philosophies drove the school's rapid pivot, given their emphasis of trying to make children feel secure in their home environments.

Fostered Personal Feelings of Security

JICS teachers and parents indicated how the school's philosophies helped foster their own security needs during the emotionally stressful time of pandemic learning. Uniquely, for teachers, they revealed how the school's overarching framework helped them feel reassured in their instructional approaches. Likewise, parents felt confident in the school's approaches knowing that their children's security and attachment needs were being prioritized. As children returned to in-person learning in Fall 2020, parents reported feeling secure in having their children return to school, knowing that the teachers prioritized their child/children's security and attachment needs. This appeared to diminish personal feelings of anxiety and uncertainty when considering whether to send their child back to in-person learning.

Discussion

The present study used an emergent case study approach to understand how participants experienced pandemic learning, such as its challenges, what helped them cope, how their approach to pandemic learning shifted, and the surprise benefits. In addition, the present study sought to understand participants' perspectives on how JICS philosophies were related to their experiences of pandemic learning year.

JICS Teachers' and Parents' Experiences with Pandemic Learning

In terms of the first objective, prior literature has suggested that parents and teachers would identify difficulty balancing remote learning and personal/professional responsibilities, possess concerns over children's education and well-being, and describe negative emotions over future uncertainties (Adams et al., 2021; Chevalier, 2020; Kenny et al., 2021; Kim et al., 2022; Sokal et al., 2020). Findings from the present study mostly aligned with this former research.

The primary difficulty reported by respondents was the challenge of managing school and personal responsibilities, which is in line with existing literature (Adams et al., 2021; Baker et al., 2021; Brown et al., 2020; Kenny et al., 2020, 2021; Kim et al., 2022; Sokal et al., 2020). However, while

previous sources covered brief intervals of pandemic learning, the present research covered respondents' perceptions of challenges over a year and a half (Spring 2020 to Fall 2021), enabling them to reflect on and compare their experiences over time. Notably, we discovered that respondents described logistical problems as weighing more heavily in Spring 2020 than in the subsequent school terms of Fall 2020 and Winter 2021. Nonetheless, the challenges reported still reflected difficulties in coping with the complexities of pandemic learning, such as the novel guidelines shaping teaching styles (e.g., dual cohorts), the future uncertainty due to changing safety mandates, and the restrictions placed on children's interactions during in-person learning.

Secondly, respondents reported concerns about their child/children's emotional well-being and development during the pandemic. These findings also parallel previous research that describes respondents' worries about the effect of the pandemic on children's mental health (Adams et al., 2021; Canadian Teacher Federation, 2020; Kenny et al., 2020). Notably, the present study found that teachers and parents observed children's increased loneliness, anxiety, and depressive symptoms, which they attributed to retracted socialization and fears around COVID-19.

Next, JICS teachers and parents unanimously reported emotional burnout during the year and a half of pandemic learning, consistent with other findings (especially among men) (Adams et al., 2021; Baker et al., 2021; Gadermann et al., 2021; Kenny et al., 2021; Kim et al., 2022; Russell et al., 2020). Similar to this existing literature (Adams et al., 2021; C. N. Baker et al., 2021; Gadermann et al., 2021; Kenny et al., 2021; Kim et al., 2022; Russell et al., 2020), respondents in the present study partially attributed their emotional burnout to the additional workload of pandemic learning. However, parents also connected their emotional burnout to stressors reflecting unique home circumstances, including family conflict, financial strain, and loneliness due to isolation. In addition, teachers expressed some frustration and guilt regarding the discrepancy in the instructional approaches to pandemic learning and how they were trained (e.g., school's philosophies).

Moreover, JICS teachers and parents also identified several items that had helped them navigate stressors during pandemic learning, including disconnecting from screens, JICS staff support, acceptance of limitations, adaptation to pandemic learning, and additional community support. While most themes are congruent with previous reports (Adams et al., 2021; Baker et al., 2021; Gadermann et al., 2021; Kenny et al., 2021; Kim et al., 2022; Russell et al., 2020), Sokal et al. (2020) found that for Canadian teachers, increased administrative support seemed to correspond to greater

feelings of exhaustion and burnout. It may be that the JICS Lab School's philosophically driven approach to pandemic learning fostered coherence and transparency in decision-making. Additionally, JICS' availability of resources (i.e., child-to-teacher ratio, access to technology, and support staff) during pandemic learning may have lessened the demands of respondents' needs, thereby increasing positive perceptions of school support (Sokal et al., 2020).

Unlike most previous studies that looked exclusively at challenges and coping strategies (Baker et al., 2017; Gadermann et al., 2021; Kenny et al., 2021; Russell et al., 2020), the present study discovered that participants also identified possible benefits from pandemic learning. One interesting finding included descriptions of children who appeared to thrive in virtual learning conditions. Amidst the many reported difficulties of pandemic learning, JICS teachers and parents shared that some children's independence in learning increased during virtual learning. Notably, some children acquired more sophisticated technological skills, developed better time management skills, and gained independence in problem-solving learning-related issues such as self-advocacy without adult oversight. These findings agree with systematic reviews outlining the effects of COVID-19 on academic outcomes that have revealed mixed results (Hammerstein et al., 2021; Panagouli et al., 2021). While most studies suggest an overall deterioration or "learning loss" across academic subjects, some children (notably older, with higher socioeconomic status, and without special needs) benefited from the independent-learning approach of remote instruction (Meeter, 2021; Spitzer & Musslick, 2021). This interesting finding suggests that virtual learning, while challenging in many respects, may be serviceable to some children.

Security and Attachment as Agents for Organizational Compassion

The second objective sought to understand how the school's philosophies were related to parents' and teachers' pandemic learning experiences. Firstly, it seemed that the philosophies served as a decision-making heuristic for JICS teachers and parents, aiding the school and families to pivot quickly to virtual learning in Spring 2020. Secondly, respondents reported how the philosophies inadvertently gratified their security needs when they had less confidence in making decisions about children's education while navigating unprecedented difficulties with pandemic learning. Notably, satisfying the security needs of JICS teachers and parents may have reduced the distress felt within themselves and fostered their ability to react compassionately towards one another

during the initial year and a half of pandemic learning.

As members of a community, *organizational compassion* occurs when individuals of a group collectively engage in compassion with one another (Kanov et al., 2004). Compassion can be defined as “noticing, feeling, and responding” to another person’s suffering (Kanov et al., 2004). It is contingent upon one’s capacity to tolerate one’s own adverse emotions without being overwhelmed (Kanov et al., 2004). Abundant literature has shown how a compassionate reaction to others’ needs is often coupled with a personal sense of attachment security (Goetz et al., 2010; Mikulincer et al., 2005). The JICS philosophies may have increased the saliency of others’ suffering by upholding the security and attachment needs of respondents during the stressful events of pandemic learning (Mikulincer et al., 2005). In other words, as JICS teachers and parents felt secure in their decisions, the philosophical-driven approach to pandemic learning may have helped to reduce their distress and give space for them to notice others’ suffering.

Evidence of collective compassion appears when people see and acknowledge the pain and efforts of others (Kanov et al., 2004). For instance, many JICS parents expressed gratitude for the dedication of JICS teachers and administrators despite the obstacles that the pandemic presented. Likewise, teachers cited their appreciation for their colleagues they met after hours to acknowledge and support one another. Finally, JICS teachers and parents were grateful for the administrators’ consistent messaging, which recognized their difficulties and underpinned their care (e.g., “This is hard,” “We are all in this together,” and “We care about your children and families”). Notably, recognizing one another’s suffering seemed to mobilize responses to alleviate others’ emotional distress through sensitive and responsive emotional and instrumental support. JICS parents indicated their appreciation for teachers and administrators’ transparency, responsiveness to feedback, and sensitivity to their needs. Many teachers reported relying on the administration’s advocacy and being thankful for hiring Team Teachers in Fall 2020 to help reduce their workload. Lastly, respondents reported being grateful for the virtual school events to foster feelings of community. Ultimately, despite the overwhelming stressors and challenges of pandemic learning, the school’s philosophies may have contributed to sustaining the emotional well-being of JICS teachers and parents through a systematic series of compassionate acts.

Limitations and Alternative Explanations

The protection of respondents’ anonymity resulted in a limited collection of demographic data of participants, which may have helped inform respondent characteristics.

Additionally, the JICS Lab school is an independent school that often involves well-resourced families and access to additional support (e.g., hiring of Team Teachers, purchasing of additional learning materials, access to professional mental health support). Thus, the benefits faced by the school’s philosophies may have been partly driven by the number of resources available. Nonetheless, many challenges outlined parallel the findings in the literature, notable studies with larger Canadian parent and teacher samples (Kenny et al., 2021; Sokal et al., 2020).

Implications and Recommendations

Prioritization of children’s well-being has been a guiding principle of the JICS Lab School since its inception in 1925 (Wright, 2010). By leaning into the philosophies of attachment and security during the pandemic, the school may have been able to buffer some of the harmful effects that COVID-19-related changes imposed upon its community members. This experience has deepened and fortified these beliefs and highlighted the essential nature of placing well-being at the forefront when making any decisions affecting school community members.

When schools were asked to make drastic changes to their practices, the JICS Lab School made decisions intending to safeguard children’s well-being as much as possible. Choices were made to prevent sacrificing what is known about what children need to thrive, such as emphasizing other protective measures to allow children to form deep and meaningful relationships with their teachers and other children.

As we face new challenges and navigate changing realities in the future, this study suggests that prioritizing well-being of school community members can have an ameliorating effect that boosts resilience, which we believe will serve academic goals better in the long run. As a model of and an advocate for secure, caring, consistent, exemplary learning throughout the early childhood and elementary years, the JICS Lab School will continue to put children’s best interests at the centre and urges other educational institutions to do the same.

Conclusion and Recommendations

These findings suggest that JICS’s unique philosophies may have helped facilitate the resilience of parents and teachers in the face of emotionally stressful and extraordinary experiences during the first year and a half of pandemic learning. Furthermore, the explicit use of security and attachment-supportive practices may be helpful for future educational proceedings during complex and challenging learning circumstances.

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Appendix A

Teacher and Parent Survey Questions

Instructions. Please respond to each question while reflecting on your pandemic learning experiences from Spring 2020 to Spring 2021. If possible, please provide specific examples that can help us better understand your experiences. You may skip any question that you are not comfortable answering. We also encourage you to use your discretion when identifying yourself, individual students and/or teachers.

Teacher Questions

- A) As an educator, what challenges did you face with pandemic learning?

B) As an educator, what helped you cope with these challenges?
- A) As an educator, what shifted for you over the past year and a half in your approach to pandemic learning and why?

B) Given that the pandemic has likely affected children's development and education, what will you change or adapt to meet the needs of the children going forward?
- As an educator, what were (if any) surprise benefits of pandemic learning that you will use in future practice (Virtual and/or in-person)?
- A) How did the lab school's philosophy, values, and/or principles help shape your response to the challenge of teaching during the pandemic?

B) What did you learn about supporting children's well-being or engagement with learning (JICS principles) during the pandemic?

Parent Questions

- A) As a parent, what challenges did you and your child/children face with pandemic learning?

B) As a parent, what helped you and your child/children cope with these challenges?
- A) As a parent, what shifted for you over the past year and a half of pandemic learning and why?

B) Given that the pandemic has likely affected children's development and education, what will your child/children need to support their learning going forward?
- As a parent at JICS, what were (if any) surprise benefits of pandemic learning that you would like to see continue?
- As a parent, how did the lab school's philosophy, values, and/or principles affect your experience of pandemic learning?

Appendix B

The JICS Lab School's COVID-19 School Procedures (Spring 2020 to Fall 2021)

Instructional

1. Purchased and supplied laptops to families to ensure that every student had access to virtual learning during mandated school closures
2. Created dual-cohorts to reduce class sizes for each grade by hiring eight early career teachers from junior kindergarten to Grade six (i.e., Team Teachers) to support the principal classroom teacher
3. Adapted school curriculum to minimize transmission of COVID-19 virus while being mindful of the school's philosophies of security and attachment

Note. Physical distancing was not adhered to within children's cohorts to enable appropriate play and social behaviours (except for snack and lunch breaks).

Environmental

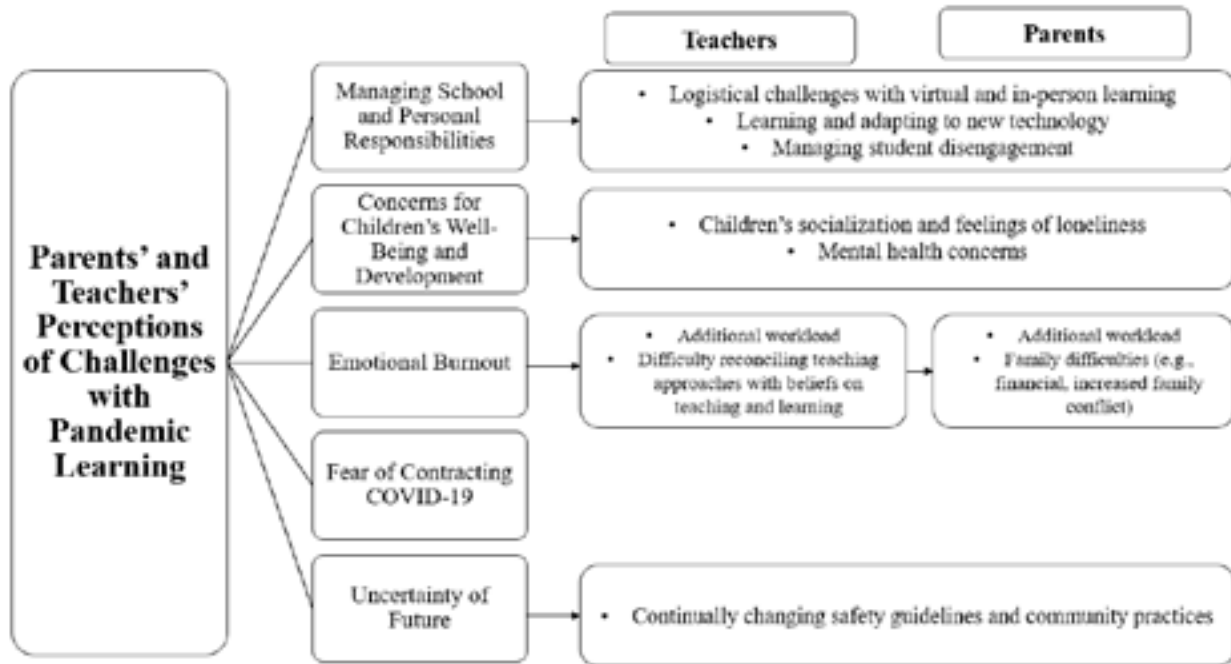
1. Rearranged school space (i.e., indoors, outdoors, virtual, combination) to allow for dual cohorts and specialty classes while adhering to safety protocols.
2. Modified school materials to ensure adequate sanitation and cleaning (e.g., removal of soft toys)

Healthy, Safety, and Well-Being

1. **Labels and Signs:** Signs were posted to promote hand washing and sanitation around the school. Floors were labelled to direct the flow of students' movements throughout the building.
2. **Arrival and Dismissal:** Staggered arrival and dismissal times were designed to ensure adequate physical distancing during high student volume times. Parents and teachers completed daily assessments and temperature checks for themselves or child/children. Finally, visitors were limited to appointment-only and were required to undergo screening prior to entry.
3. **Cleaning and Sanitation:** Hand sanitizer stations were installed throughout the school. Routine sanitization of facilities and high-touch surfaces took place during the day. Professional deep cleaning of the school took place at the end of every day.
4. **Monitoring of Student Health:** Guidelines for isolation and safe return to school were adhered to based on changing government mandates. Children were recommended to wear masks. Those exhibiting symptoms were asked to remain at home. Children who exhibited symptoms at school were isolated from a JICS staff member until picked up by a parent.

Figure 1

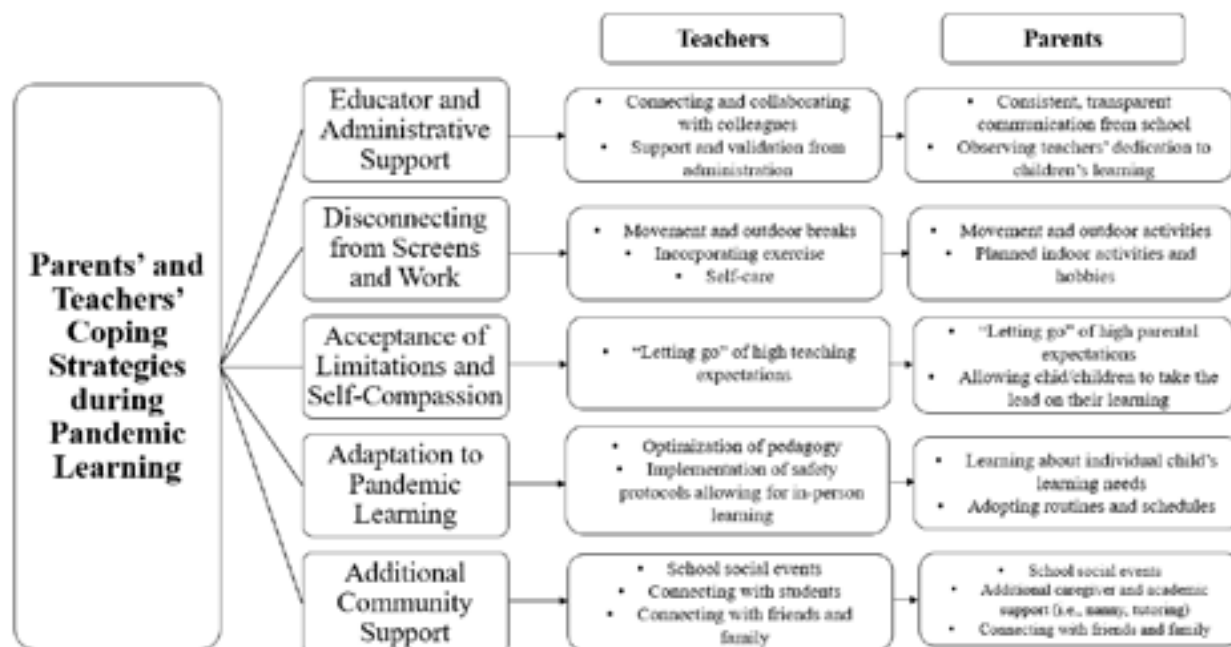
Perceived Challenges JICS Parents and Teachers Encountered During Pandemic Learning



Note. The schema represents the thematic challenges that the Dr. Eric Jackman Institute for Child Study (JICS)'s teachers and parents identified from Spring 2020 to Fall 2021 of pandemic learning (See Findings). The order of frequency appears from top to bottom, where the most frequently cited challenge is listed at the top of the second column. Individual concerns are listed separately under the Teachers and Parents headings.

Figure 2

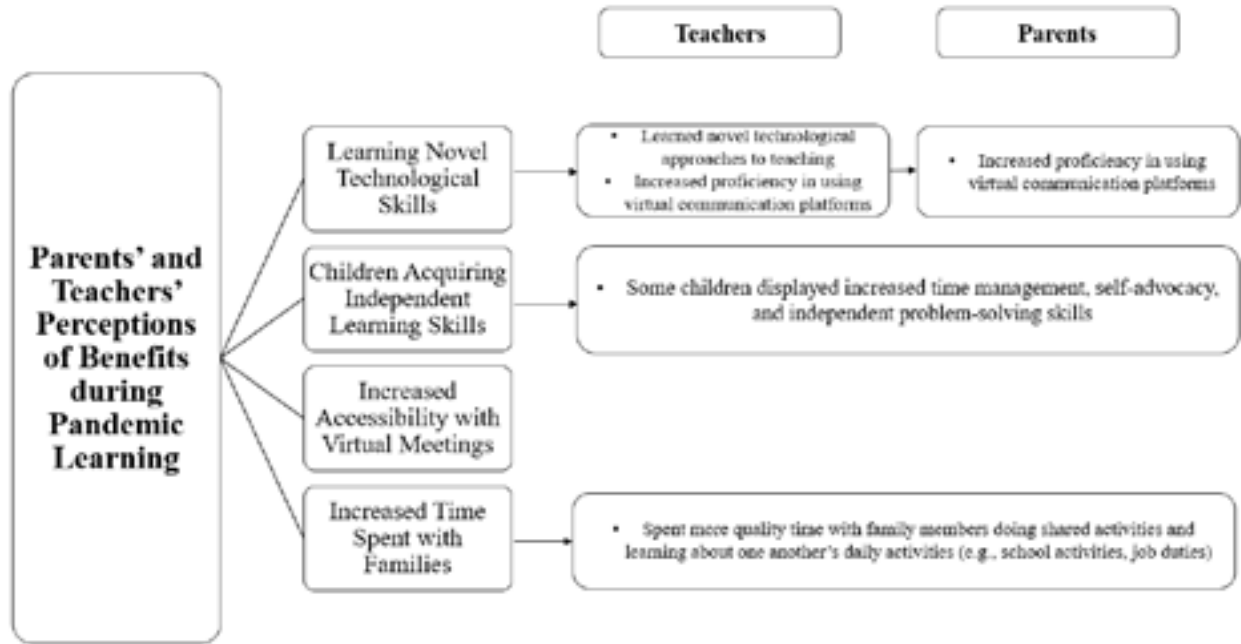
Coping Strategies Identified by JICS Parents and Teachers During Pandemic Learning



Note. The schema represents the different coping strategies that the Dr. Eric Jackman Institute for Child Study (JICS)’s teachers and parents identified from Spring 2020 to Fall 2021 of pandemic learning (See Findings). The order of frequency appears from top to bottom, where the most frequently cited coping strategy is listed at the top of the second column. Specific coping strategies are listed separately under the Teachers and Parents headings.

Figure 3

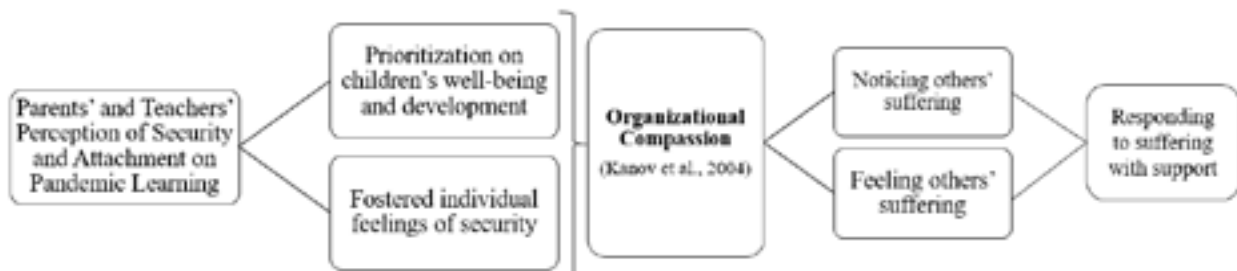
Benefits Identified by JICS Parents and Teachers During Pandemic Learning



Note. The schema represents the benefits that the Dr. Eric Jackman Institute for Child Study (JICS)’s teachers and parents identified from Spring 2020 to Fall 2021 of pandemic learning (See Findings). The order of frequency appears from top to bottom, where the most frequently cited benefit is listed from the top of the second column. Specific benefits are listed separately under the Teachers and Parents headings.

Figure 4

Conceptual Framework Outlining Philosophical-Driven Effects on Pandemic Learning



Note. This model shows how the Dr. Eric Jackman Institute for Child Study (JICS) teachers and parents perceived the effects of the school’s philosophies (e.g., security and attachment) on pandemic learning from Spring 2020 to Fall 2021 (See Discussion).

The Impact of COVID-19 on the Physical and Mental Health of Laboratory School Directors

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“The pandemic brought about new consequences for decisions, being aware that someone could be affected with a life-or-death situation based on school activity brings an unknown and previously unencountered responsibility. Also, the CONSTANT decision making is exhausting. Making decisions that are typically outside of my knowledge and expertise (public health) adds more pressure, stress, and fatigue.”

(Quote from survey participant in response to an open-ended question about changes in stress during the pandemic)

School Context of the URI Child Development Centers

The University of Rhode Island (URI) is home to two high-quality laboratory preschool programs accredited by the National Association for the Education of Young Children (NAEYC). The URI Child Development Center (CDC) serves 30 children on the main campus in rural Kingston, RI and the Dr. Pat Feinstein Child Development Center (CDC) serves 32 children on a satellite campus in urban Providence, RI. The mission of the URI CDCs is three-fold and, mirroring the mission of the university, includes teaching, research, and service/outreach. URI CDC staff, in partnership with URI Human Development and Family Science faculty, are actively involved with various workforce development grants supporting early learning program quality improvement efforts throughout the state.

Research Problem and Question

While CDC staff and HDF faculty continued facilitating workforce development projects (including professional development, communities of practice, mentoring and consultation, and on-site coaching) throughout the COVID-19 pandemic, many of the early childhood educators and program leaders involved candidly commented on increased stress levels beginning in March 2020. Stressors spontaneously reported by project participants included shut downs, financial challenges for early learning programs as well as personal financial challenges, layoffs and reduced hours, worries about

job security and funding cuts, reduced group sizes/enrollment, staffing challenges, health concerns, concerns about virtual schooling for preschool children as well as supporting virtual schooling and child care needs for their own families, the need for increased staff supports, and navigating ever-changing public health guidelines. Hearing many first-hand accounts of COVID-related stress across multiple projects the URI team was working on led to an interest in examining the impact of COVID-19 on the stress and well-being of leaders in education.

Literature Review

Laboratory Schools During the Pandemic

Laboratory school directors have a complex job that includes many roles, across multiple systems, ranging from administrators, classroom teachers, and instructors of adult learners. The pandemic magnified the complexity of educators' day-to-day duties and responsibilities across all domains, forcing them into crisis management roles while navigating the novel territory of a global pandemic. With most laboratory schools operating either on or near higher education campuses, the pandemic may have created substantial challenges with operations, enrollment, maintaining curriculum for college students, and staff retention. Despite the complexity of their roles and affiliation with universities that conduct research and scholarship, to date there is relatively little research conducted on this population. There is even less research on the impact of the pandemic on lab school directors' well-being.

Several areas of lab school directors' lives were impacted during the pandemic, including their mental well-being, coping strategies, and home lives (Jakubowski & Sitko-Dominik, 2021; MacIntyre et al., 2020). Lab school directors were expected to transition their daily schedules and lesson plans into an entirely online format that is conducive to learning for young children while also managing their own personal lives and taking care of their families. Professionally, the pandemic impacted the directors and administrators who bore the extra responsibilities of not only switching to a completely online format and delivery of daily activities, but additionally ensuring that teachers and parents were aware of the vastly changing policies and were supported throughout the process. Educators and parents were required to collaborate effectively in order to transition successfully to a distance learning model, all the while learning new digital platforms and methods to apply developmentally appropriate practice while social distancing. As was the case around the world, lab school administrators could not rely on pre-existing wisdom and were navigating uncharted territory.

The Impact of the Pandemic on Physical and Mental Health of School Administrators

It is well documented that the COVID-19 pandemic has affected and continues to impact the physical and mental health and well-being of people across the world (Ruiz et al., 2021). In the years leading up to the onset of the pandemic, researchers reported that early childhood teachers who had higher levels of job competence were less likely to report feeling depressed and stressed (Jeon et al., 2018). At the same time, they were more likely to report being emotionally exhausted at their job. Incidentally, when they reported confidence in their abilities to discipline children, they exhibited lower levels of emotional exhaustion (Jeon et al., 2018). Individuals in the early childhood education and care field who were teaching and caring remotely in May 2020 were 1.5 times more likely to rate their emotional well-being as lower when compared to those whose sites were completely closed (Nagasawa & Tarrant, 2022).

Although there is not an abundance of research explicitly focused on laboratory school directors, new research has documented that the COVID-19 pandemic has impacted the physical health and mental well-being of teachers and administrators across multiple settings (Kim et al., 2022). For instance, a study by Nabe-Nielsen and colleagues (2021) revealed that primary school teachers tended to report the highest levels of acute stress and anxiety compared to teachers of other grade levels, with teachers of all academic levels reporting a 13.7% prevalence of anxiety during the

pandemic, contrasting with a study in 2018, in which teachers reported 9.6% prevalence of stress and anxious feelings (Jeon et al., 2018). The fear of the unknown during the pandemic increased teacher stress levels and intensified the emotional toll experienced by early education educators (Brooks et al., 2022). For many Kindergarten teachers, their main sources of stress during the pandemic originated from their workload, concern regarding their health and families, and loss of control at work due to the new online teaching and learning environment (Dos Santos, 2021). When switching to virtual teaching formats, public school principals found that they focused more on supporting students, teachers, and parents in transitioning to an alternate form of schooling by becoming active information and policy interpreters. School directors had to make decisions based on their individual well-being and the well-being of their staff and children, all while communicating effectively and sustaining institutional standards (Netolicky, 2020). Directors experienced intense additional workloads related to maintaining educational delivery models for students, supporting teachers in implementation, and dealing with the consequences of school closures and reopening. However, very little has been done to alleviate the intensification of work demands, stress, and burnout for directors and principals (Pollock, 2020).

Moreover, waves of the COVID-19 pandemic also seemed to have an impact on teacher stress and anxiety. When comparing the first and second wave of the pandemic, teacher stress increased from 6% to 47%. Anxiety and depression symptoms also increased from 21% to 31%, and from 12% to 46% due to the limited access to social support (Jakubowski & Sitko-Dominik, 2021). This elevated stress and anxiety impacted multiple domains of administrators' lives. For example, many early childhood teachers reported that their stress and fear in response to COVID-19 was accompanied with poor-quality sleep, which in turn greatly impacted their emotional well-being (Berger et al., 2022). Due to the significant additional workload in the educational field and the added responsibilities to their own families, school administrators especially experienced an exponential increase in feelings of stress, fear, and tension during the COVID-19 lockdown period (Karakose et al., 2021).

In related literature, post-traumatic stress symptoms such as anxiety, sleep disturbances, exhaustion, and burnout were the most reported overall health concerns by teachers during the pandemic due to a relentless workload (Beames et al., 2021); more specifically, K-12 teachers and school administrators experienced increased loneliness the more severely the quality of their life was impacted by COVID-19. While all groups were having difficulties dealing with the isolation and increased stress, K-12 teachers and school administrators in particular

had difficulty establishing healthy communication, controlling anger, and processing emotional change (Karakose et al., 2022).

Work Satisfaction of School Administrators During the Pandemic

Work satisfaction among early childhood providers has mixed results in previous research. For instance, some researchers have reported that female early education teachers particularly expressed lower job satisfaction because of the increased workload and added parental stress they were facing. This work-family conflict exacerbated early childhood education (ECE) teachers' feelings of anxiety regarding their work-life balance and coping with the pandemic as a whole, which were not as severe in male early education teachers (Hong et al., 2021). Yet others have reported that female school administrators were more satisfied with their lives compared to male school administrators during the COVID-19 lockdown period and, in the same study, younger school administrators were more fearful during the pandemic and experienced a higher level of work-family conflict compared to counterparts in other age groups (Karakose et al., 2021).

In a 2022 study by Sandstrom and colleagues, 222 child development center lead teachers and assistant teachers were surveyed regarding their work experiences and overall job satisfaction (Sandstrom et al., 2022). About 50% of teachers reported they were very satisfied with their jobs, 38% reported they were somewhat satisfied, and 13% expressed dissatisfaction. It is important to note that, in this survey, teachers with higher paid positions were likely to report feeling more satisfied with their job and, similarly, those who worked in higher quality facilities were also more satisfied with their job than those who worked in lower-quality facilities. Workload, homelife, and parental responsibilities were significant factors that greatly influenced job satisfaction for early childhood educators during the pandemic.

An additional unique stressor for lab school administrators is the intense role of mediation and conflict resolution among a variety of constituents. Van Til (2022) reported that in their sample, several lab school administrators found their time and energy was fully committed to mediating conflicting functions and varying perceptions among their work groups. These administrators described their professional life as a constant shuffling among differing daily demands by parents, students, professors, laboratory school teachers, university officials, and funding sources. Becoming mediators and accommodating requests among various groups at work left them feeling underappreciated and undervalued.

The Challenges of Balancing Professional and Personal Demands During the Pandemic

With the majority of early childhood providers being women with their own families, the dual role of the ECE providers as professional and primary caregiver has garnered recent exploration. A study by Spadafora et al. (2022) found that kindergarten educators in Canada were more likely to report depressive and anxious symptoms if they were responsible for caring for their own children or an aging parent at home. An additional study by Crosslin and Bailey (2021) examined school leaders who are mothers, and results indicated they experienced intense stress as well as the need to maintain resilience when navigating their work and home environments. Early childhood educators utilize practices that provide families with the proper services and support because they value their profession; however, they are also attempting to ensure that their own psychological well-being is cared for (Alan, 2021).

Financial hardship has also been identified as a contributing factor to poor mental well-being. For example, a study regarding 75 early child-care leaders' experiences with COVID-19 in Louisiana found that financial insecurity had a noticeable impact on early childhood leaders' mental well-being, with 53% of participants reporting clinically relevant levels of depressive symptoms, 40% reporting trouble sleeping, 30% having trouble focusing, and 25% feeling that everything they did on a daily basis was an effort (Bassok et al., 2020). As demands in the childcare environment increased during the pandemic, child-care managers experienced increased feelings of emotional drain. Additionally, child-care managers described feelings of emotional overextension and being drained by their work demands due to lack of time, staff, and flexibility (Gritzka et al., 2022).

The Current Study

Based on existing literature and anecdotal evidence from conversations with early childhood education directors, as well as gaps in the literature about the health and well-being of directors, the current exploratory study aimed to explore the impact of the COVID-19 pandemic on laboratory school administrators' physical and mental health. It was hypothesized that lab school administrators would experience increased stress, poorer mental health, and more chronic health conditions during the COVID-19 pandemic.

Methodology

Participants

Laboratory school directors were recruited in the United States and internationally in 2022 through the International Association of Laboratory Schools (IALS) and via direct emails. Additional sites were identified via Google search of laboratory-based schools including all types of laboratory schools such as infant to secondary schools. Of the 114 laboratory schools initially contacted, 44 individuals began the survey, but only 27 of them fully participated in the present study. Participants were asked to complete a one-time Qualtrics survey assessing their patterns in health and well-being during the COVID-19 pandemic. The survey took 20 minutes to complete and at the end included an option to opt into a \$40 gift card for participation. Four participants also received an additional \$50 raffle gift card for their participation. All University of Rhode Island (URI) IRB protocols were followed throughout the duration of this project.

Data Collection and Analyses

Survey Instruments

Well-being. The National Institute for Occupational Safety & Health (NIOSH) WellBQ questionnaire (Chari et al., 2021) questions were released in 2021 and were designed based on an in-depth, multi-disciplinary literature review of well-being theories, measurement tools, and research by the RAND Corporation. Items in this questionnaire are selected strategically based on relevancy regarding the five domains of worker well-being. This questionnaire was designed to develop a better understanding of the well-being of the workforce as well as to identify aspects of worker well-being that are being overlooked. Questions from this survey were utilized to survey changes in worker well-being in relation to economic and societal changes during the COVID-19 pandemic.

To shorten the overall length of the survey, we administered only five sections of the original NIOSH survey: 1) work evaluation and experience; 2) workplace policies and culture; 3) workplace physical environment and safety climate; 4) health status; and 5) home, community, and society. Sample items extracted from the survey included questions pertaining to job and wage satisfaction, coworker support, job security,

and overall workplace safety. Questions were formatted in the following way: “Overall, I am__ with my job.” Response options included 1(not at all satisfied); 2(not too satisfied); 3(somewhat satisfied); and 4(very satisfied). Another sample item that was utilized in the survey read “The work I do is meaningful to me.” Response choices were 1(strongly disagree); 2(somewhat disagree); 3(somewhat agree); and 4(strongly agree). As instructed by the NIOSH testing protocol, demographic information was collected at the end of the NIOSH survey.

Stress. The survey included two items to measure respondents’ level of stress before and after the start of the pandemic. These items were created by principal investigators for use in this study. While the pandemic is not yet over, this study uses the terms “pre” to describe retrospective ratings of stress before the pandemic (*My daily stress level before the pandemic was...*), and “post” to describe stress at the current moment (*My daily stress level since the beginning of the pandemic is...*). Answer choices ranged from 1 (very little stress) to 10 (extreme stress).

Overall stress was also assessed using a series of questions from the NIOSH survey. Stress across four domains—Health, Finances, Family and Social Relationships, and Work—were assessed on a 6 point scale ranging from 0 to 6 as follows: 0 (never); 1 (almost never); 2 (rarely); 3 (sometimes); 4 (often); 5 (very often); and 6 (always).

Data Analysis

All data were analyzed using SPSS version 27. Univariate, bivariate, and Ordinary Least Squares regression analyses were used to explore the demographic characteristics of the sample and associations among variables of interest.

Sample. A total of 27 laboratory school directors or administrators participated in this study. Seventy percent of participants identified as laboratory school directors or principals, 89% were White, 96% were female, and 93% had graduate degrees. Over 70% of participants were from households earning more than \$100,000 per year while roughly half of the sample had been working at their job for over 10 years. Please see Table 1 for additional demographic information.

Table 1. Demographic information of study participants

<i>What role do you currently serve at your school?</i>	<i>N</i>	<i>%</i>	<i>How long have you worked in your job?</i>	<i>N</i>	<i>%</i>
Lead teacher/teacher	2	7.4	Less than 1 year	2	7.4
Ed. Coordinator	2	7.4	1-5 years	5	18.5
Director/principal	19	70.4	6-10 years	4	14.8
Other (Director of ECE, Faculty Director, Manager, Vice Principal)	4	14.8	10-20 years	12	44.4
<i>What was your entire household income last year, before taxes?</i>	<i>N</i>	<i>%</i>	<i>Highest level of school or degree you received?</i>	<i>N</i>	<i>%</i>
\$20,000 to \$34,999	1	3.7	Bachelor’s degree	2	7.4%
\$50,000 to \$74,999	1	3.7	Graduate degree	25	92.6%
\$75,000 to \$99,999	5	18.5			
\$100,000 to \$149,999	11	40.7	<i>Gender</i>	<i>N</i>	<i>%</i>
\$150,000 to \$199,999	7	25.9	Female	26	96.3
\$200,000 or more	2	7.4	Male	1	3.7
<i>Marital Status</i>	<i>N</i>	<i>%</i>	<i>Race</i>	<i>N</i>	<i>%</i>
Married	23	85.2	White	24	88.9
Widowed	1	3.7	Black/African American	2	7.4
Divorced	2	7.4	Do Not Wish to Answer	1	3.7
Never Married	1	3.4			

Source: 2022 URI IALS Survey

Job Satisfaction. Table 2 displays information on work related satisfaction variables. The overall responses pointed to strong work satisfaction. Over 90% of participants were somewhat satisfied or very satisfied with their job and with their wages. With the exception of two that chose the “somewhat satisfied” option, all other participants were

very satisfied with the benefits provided by their employers. Regarding satisfaction with chances for advancement on the job, five participants indicated that they were not at all or not too satisfied while the rest of the sample (22 participants) were somewhat or very satisfied.

Table 2. Laboratory school director reports of Job Satisfaction

	<i>Not at all Satisfied N (%)</i>	<i>Not too Satisfied N (%)</i>	<i>Somewhat Satisfied N (%)</i>	<i>Very Satisfied N (%)</i>
Overall, I am ____ with my job.	1 (3.7)	1 (3.7)	9 (33.3)	16 (59.3)
I am ____ with my wages.	0 (0.0)	1 (3.7)	14 (51.9)	12 (44.4)
I am ____ with the benefits provided by my employer	0 (0.0)	0 (0.0)	2 (7.4)	25 (92.6)
I am ____ with my chances for advancement on the job.	1 (3.7)	4 (14.8)	14 (44.4)	8 (29.6)

Source: 2022 URI IALS Survey

NIOSH Overall Stress. Despite the generally positive responses to the work satisfaction survey items, respondents showed signs of being stressed with their work, potentially due to the current pandemic. In Table 3, just over half of the respondents (n=14) indicated that they experienced stress very often or always in relation to their work. None of the

respondents answered never experiencing stress at work. Further, stress regarding family and personal relationships appeared to also be a concern for several respondents. In the other two stress categories—health and finances—lower levels of stress were reported.

Table 3. Laboratory school director reports of NIOSH Stress

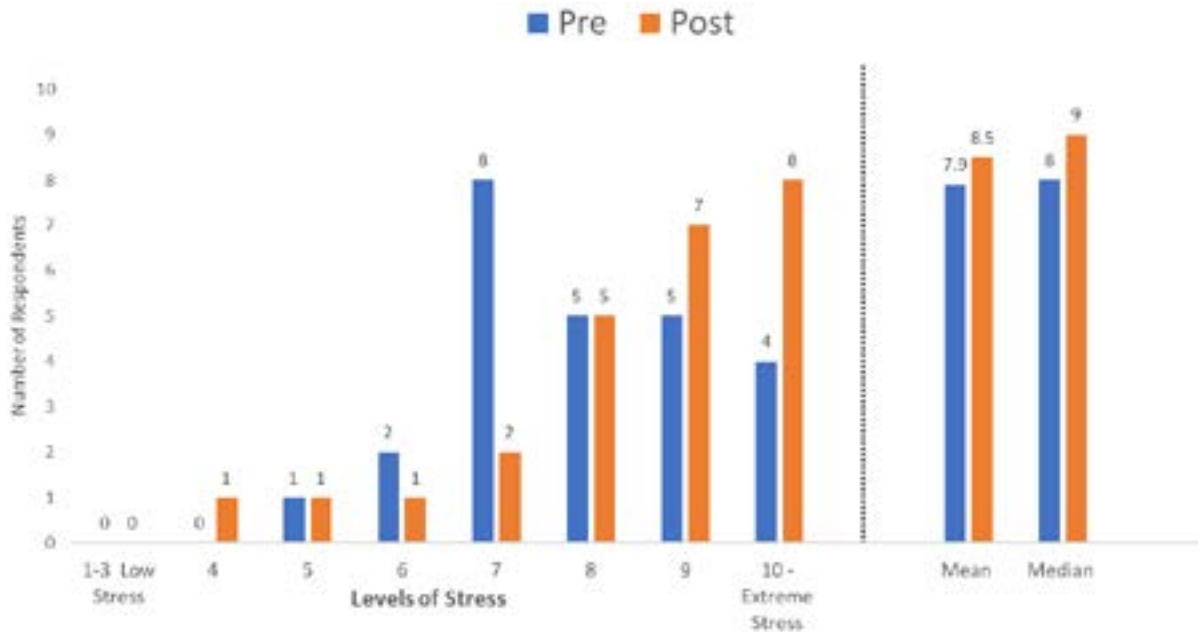
How often do you experience stress with regard to the following topics?	Never N / %	Almost Never N / %	Rarely N / %	Sometimes N / %	Often N / %	Very Often N / %	Always N / %
Your Health	1 (3.7)	6 (22.3)	9 (33.3)	6 (22.3)	1 (3.7)	2 (7.4)	2 (7.4)
Your Finances	1 (3.7%)	8 (29.6)	2 (7.4)	12 (44.4)	2 (7.4)	1 (3.7)	1 (3.7)
Your Family or Social Relationships	2 (7.4)	4 (14.8)	3 (11.1)	7 (25.9)	5 (18.5)	2 (7.4)	4 (14.8)
Your Work	0 (0.0)	2 (7.4)	3 (11.1)	4 (14.8)	4 (14.8)	9 (33.3)	5 (18.5)

Source: 2022 URI IALS Survey

Figure 1 displays the range of answers to the two specific COVID-19-related stress questions included in the survey (*Pre-COVID Stress* and *Post-COVID Stress*). We saw a post-pandemic shift in levels of stress to the higher end of the scale and an increase in the means and medians between pre- and post-pandemic answers. The average stress increased from 7.9 to 8.5 points, representing also an extra point on median

stress. It is also worth noting that the number of respondents that experienced *Extreme Stress* (a score of 10) doubled from before to after the pandemic (from 4 to 8), a significant difference at $\alpha = .10$. In sum, Figure 1 suggests that lab school directors reported experiencing elevated levels of *Pre-COVID Stress* before the pandemic, and their *Post-COVID Stress* significantly increased after the onset of the pandemic.

Figure 1. Self-reported stress before and after the onset of the COVID-19 pandemic



Satisfaction. Table 4 displays the other relevant variables examined in this study. *Overall Work Satisfaction* and *Overall Stress* were composite variables that represent, respectively, averages of the items shown in Table 2 and 3, respectively. Similarly, *Poor Mental Health*, *Meaningful Work*, *Job Engagement*, and *Productivity* were created using guidelines from NIOSH based on survey questions. *Number of Poor Mental Health Days* is the tally from the question “Now, thinking about your mental health, which includes stress, depression, anxiety, and problems with emotions, during the

past 30 days, for how many days was your mental health not good?” *Life Satisfaction* was taken from the question “In general, how satisfied are you with your life?” with answers running from 1-Not at all satisfied to 4-Very satisfied. *Chronic Health Conditions* were a sum of respondents that currently have one of the following: arthritis, other musculoskeletal disorders, asthma, lung disease, cancer, depression, diabetes, heart disease, and high blood pressure. Finally, *Insomnia* was a dummy-coded variable where 1 represented respondents who currently have chronic insomnia.

Table 4. Descriptive Statistics of Key Variables

	N	Min.	Max.	Mean	Std. Dev.
Overall Work Satisfaction	27	2.5	4	3.47	0.37
NIOSH Overall Stress	27	1	5.25	3.06	1.11
Poor Mental Health*	27	0	3	0.70	0.83
Meaningful Work	27	1	4	3.81	0.64
Job Engagement	27	2	6	4.96	0.95
Productivity	27	0	3.25	1.53	0.94
Number of Poor Mental Health Days	27	0	30	9.48	9.59
Life Satisfaction	27	3	4	3.37	0.49
Chronic Health Conditions	27	0	6	1.33	1.77
Insomnia	27	0	1	0.22	0.42

Source: 2022 URI IALS Survey *Reverse coded - higher value indicates poorer mental health

Findings

Regression Analyses

Ordinary Least Squares regressions were conducted to examine the associations between the predictor and outcomes variables. Due to significant missing data, two participants were excluded from the regression analyses. Despite the limited sample size of this study, a few interesting associations emerged. Table 5 presents the results of three independent Ordinary Least Squares regressions. A new variable, *Increased Stress during COVID*, was created as a dummy-coded variable that represented respondents who rated their level of stress higher now (*Post-COVID Stress*) than before the pandemic (*Pre-COVID Stress*). From the 25 full survey responses, 14 respondents fall into this category indicating that their stress levels increased during the pandemic. This figure is perhaps lower than expected due to the nature of the job during the pandemic.

Due to the homogeneity of the sample, opportunities to include more traditional control variables on these models were limited. For personal characteristics, this analysis included indicators if the respondent was married, if the household earns more than \$100,000 annually, and if current job tenure is over 10 years. Other demographics were not included due to their lack of variability. In addition, an indicator if the school experienced staff shortages during the pandemic (a total of 16 lab schools) was added since this factor could be a relevant source of stress for school directors.

Regression Model 1: Predictors of Poor Mental Health

In Model 1, poor mental health was a reverse-coded dummy variable where higher levels represent poorer mental health. *Post-COVID Stress* was associated with higher poor mental health. Both *Pre-COVID Stress* and *Increased Stress during COVID* were associated with lower levels of poor mental health. Similar trends can be seen on Models 2 and 3.

Regression Model 2: Predictors of # of Poor Health Days

In Model 2, the dependent variable is the number of poor health days in the last 30 days. An increase of *Post-COVID Stress* was positively associated with 3.18 extra days of poor health while *Pre-COVID Stress* reduced the number of poor health days by 4.14. Married respondents and those in lab schools that experienced staff shortages were associated with more days of poor mental health.

Regression Model 3: Predictors of Chronic Health Conditions

Finally, in Model 3, the two pandemic-related variables followed the same patterns as before: *Pre-COVID Stress* was correlated with respondents listing fewer chronic health conditions while *Post-COVID Stress* was related to more chronic health conditions. Married respondents also reported a slightly higher incidence of chronic health conditions. While the timing of first appearance of a chronic condition may likely be before the pandemic, the relationship between stress and physical health is well recognized.

Table 5. Ordinary Least Squares Regression Analyses

	(Model 1) Poor Mental Health b/se	(Model 2) # of Poor Mental Health Days b/se	(Model 3) Chronic Health Conditions b/se
Work-Related			
Overall Work Satisfaction	0.461 (0.42)	3.219 (3.89)	0.099 (0.11)
Meaningful Work	-0.503 (0.36)	-3.009 (3.33)	-0.045 (0.10)
Job Engagement	-0.219 (0.27)	-.009 (2.52)	-0.034 (0.07)
Productivity	-0.217 (0.18)	-.207 (1.71)	0.028 (0.05)
Life Satisfaction	-0.396 (0.34)	-6.614 (3.15)	-0.010 (0.95)
Insomnia	0.038 (0.17)	-2.373 (1.56)	-0.013 (0.04)
Measuring Stress			
NIOSH Overall Stress	0.112 (0.16)	1.661 (1.49)	-0.001 (0.04)
Increased Stress during COVID	-0.846* (0.43)	-6.255 (3.94)	-0.166 (0.11)
Pre-COVID Stress	-0.353** (0.14)	-4.144** (1.31)	-0.096** (0.04)
Post-COVID Stress	0.356** (0.12)	3.181** (1.17)	0.064* (0.03)
Demographic Controls			
Married	-0.010 (0.18)	3.890** (1.72)	0.118** (0.05)
Income Over \$100,000	-0.070 (0.36)	-.941 (3.35)	-0.033 (0.10)
Over 10 years job tenure	-0.067 (0.27)	-1.085 (2.50)	0.023 (0.07)
Pandemic Staff Shortages	0.336 (0.28)	7.319** (2.65)	0.017 (0.08)
Constant	3.496 (2.09)	29.853 (19.25)	0.289 (0.57)
Adj. r2	0.635	0.772	0.489
N	25	25	25

Significance Levels: * p < .10. ** p < .05. Source: 2022 URI IALS Online Survey

Analysis and Discussion in the Laboratory School Context

The purpose of this research study was to better understand the COVID-19 related experiences of lab school directors and administrators, particularly as they relate to stress, mental health, and physical health status. The results of this study indicate that the respondents are overwhelmingly satisfied with their jobs, wages, and benefits. Lab school directors also find their roles highly meaningful, engaging, and a source of significant life satisfaction. Comparatively, more respondents were dissatisfied with advancement opportunities. In other words, lab school directors are incredibly committed to, and find great joy in, their jobs, while also acknowledging that they have reached the top tier of advancement in their profession.

Like other industries, lab school directors also reported experiencing stress very often or always related to their work. The pandemic exacerbated that stress, with the majority of respondents reporting more stress now than before the pandemic. Interestingly, the data revealed that lab school directors were less stressed about their own health or finances. It is plausible that the affiliation with a university setting, dual earner household income, or infusion of COVID-19 relief funds, helped to mitigate any financial concerns associated with shutdowns or healthcare costs. However, directors reported experiencing higher stress related to navigating the dual pandemic-related roles of leading a school and their personal lives, with the most stress reported in the domains related to their own families and personal relationships. It is possible that lab school directors are concerned about the potential of COVID-19 exposures at work and exposing their families to the illness, or an ability to care for their family members due to the importance of being present at their centers during such a complex managerial period. The results for married respondents displaying more days of poor health and more chronic health conditions appears to support this possibility.

Stress Experienced by Lab School Directors

Overall, our results illustrated the extreme stress that lab school directors experienced as a result of the pandemic. First, lab school directors reported a doubling in their stress levels from before the pandemic to now. Although the reports were retrospective in nature, the perception of such a significant increase in stress levels is concerning and should be considered a warning for potential stress and burnout across the profession.

Second, as hypothesized, higher levels of stress dating back to the beginning (*Pre-COVID Stress*) of the pandemic were associated with poor mental health, more days of poor

mental health, and chronic physical health conditions. It is well documented that both chronic stress and sleep deprivation have a significant impact on physical and mental health (Chattu et al., 2018; Hafner et al., 2017) which is consistent with our findings. We would expect that the long-lasting experience of uncertainty while navigating a global pandemic would impact mental health and physical health. Surprisingly, however, those who reported higher levels of stress *before* the pandemic (pre COVID-19) reported fewer days of poor mental health, fewer poor mental health days, and fewer chronic physical health conditions.

Also noteworthy, is that *NIOSH Overall Stress*, a composite variable created from four validated items from NIOSH questionnaire (Table 3), was not significant in any of the regressions. This result is in contrast with the stress questions directly tied to the pandemic which were significant despite the limited sample size. Similarly, other job-related variables, life satisfaction, and insomnia were not significant predictors in any of the models. Together, these results might indicate the prevalence of the impact of the pandemic over other factors usually tied to mental and physical health outcomes.

Perhaps predictably, this sample's increased levels of stress during the pandemic (*Post COVID-19*) were correlated with worse mental and physical outcomes including poor mental health, higher number of poor mental health days, and more chronic conditions. Surprisingly, however, higher *Pre-COVID Stress* was associated with better outcomes in all three dependent variables of interest. It appeared that those who had previous experience dealing with significant stress had better physical and mental health outcomes during the pandemic. It is possible that respondents were misjudging their stress level before the vast impact that the pandemic had on their lives and work. Alternatively, higher *Pre-COVID Stress* levels may have acted as a buffer against worse mental and physical outcomes. This potentially moderating effect should be explored in future research to identify the specific protective mechanism between stress and coping. It could also help us to understand the profile of a lab school director who might be best equipped to cope with external threats to their traditional roles.

Study Limitations

This research study is one of the first of its kind that explores the physical and mental health of laboratory school directors during the COVID-19 pandemic. Despite garnering important information about the research topic, it is important to note the limitations of the study. First, it is important to note that since this study design cannot determine causation, these findings must be cautiously interpreted and causality cannot be inferred. Second, and most notably, the sample

size is small. The population available to complete this study was limited to begin with, and the sample size achieved after multiple recruitment attempts was less than we hoped for at the onset of the study. The sample of 27 respondents represents over 25% of all IALS member schools, a percentage often considered appropriate for external validity for a specific group or population of interest. Although it is unclear why only 27 administrators started the survey (two did not complete it), it is possible that overwhelmed lab school directors started, but did not finish the survey, leading to a selection bias. We hope that future research efforts are able to recruit a larger and more representative sample of international laboratory school directors to better understand the unique stressors they experience in their roles as directors.

Third, the pre-pandemic stress ratings were retrospective in nature and may have been affected by issues with long-term recall. Fourth, to avoid overfit of the models due to too many covariates and few observations, only the main variables of interest were used in this analysis with just a few relevant covariates. In fact, the survey sample was considerably homogeneous in a number of demographic factors such as gender, educational achievement, and race, which makes noninclusion more methodologically justified and avoid potential identifiable information to be made public. Again, due to its limited sample size, this study refrains from taking a strong stance on the model's estimates and generalizations to the whole population of lab directors. However, significant results found here are consistent in three different models and seem to point out a distinctive relationship between stress from the pandemic and both mental and physical health.

Conclusions and Recommendations

Our findings suggest that helping lab school directors to better understand their personal stress responses and their ability to cope with stressors in their jobs and personal lives could facilitate the implementation of useful coping mechanisms that support physical and mental health. Targeted and practical coping strategies at both the individual and organization levels could be woven into existing professional development or communities of practice. Opportunities to support directors navigating the multitude of external threats in a changing educational landscape could result in better health in directors, whose calm and steady leadership positively impacts their teaching staff, children, families, and students.

Future research exploring laboratory school directors' stress, physical and mental health, and coping skills is warranted. Lab school directors tend to face many competing demands in addition to leading a school; for example, they are typically responsible for teaching college courses,

coordinating experiential learning for undergraduate students, service and committee work, grant writing, and conducting and disseminating research. The complex and multifaceted nature of leading a laboratory school could have exacerbated the COVID-19 pandemic related stress experienced by some participants in this study. On the other hand, in comparison to school administrators from other settings, lab school leaders may have more institutional support in their positions. We can speculate that supports such as the university infrastructure, comprehensive benefits packages, adequate salaries, paid leave, and access to mental and physical health resources may have mitigated the impact of COVID-19 stress for some lab school leaders. Future research with laboratory school directors should build upon the current study by investigating which specific aspects of their unique roles are associated with increased stress as well as which aspects of their roles and settings are associated with positive health outcomes, overall well-being, and the use of helpful supports.

Key take-aways:

1. Lab school directors reported that their experience of extreme stress doubled during the pandemic.
2. When compared to general levels of stress, pandemic related stress significantly contributed to poorer physical and mental health outcomes.
3. Administrators who reported higher levels of stress before the pandemic had better mental health outcomes during the pandemic. Previous experience coping with high stress appeared to buffer the impact of the pandemic on mental health.
4. While most directors were overall satisfied with their jobs, wages, and benefits connecting to higher life satisfaction, most respondents were dissatisfied with job advancement opportunities creating a barrier to career advancement.

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“A Dedication to Honoring the Whole Child”: Family and Teacher Experiences of COVID-Era Progressive Education

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FALK LABORATORY SCHOOL, UNIVERSITY OF PITTSBURGH

“I try to teach my kids to be problem solvers, to be resilient, to strive to do their best, whatever their best might be, and to recognize the learning that comes from making mistakes. That is how I have had to respond to this pandemic. I have had to be ok with missteps and failures and be willing to pick myself up, dust myself off, and get back at it.”

The call to close down Falk in response to the COVID-19 pandemic came midway through spring break in March 2020. Along with countless other schools in Pittsburgh, as well as nationally and internationally, the Falk community tried to adapt as the initial two-week closure stretched to months, and then to the end of the 2019-2020 school year. As with other schools, the 2020-2021 school year was fraught with hard decisions, hybrid learning environments, and new restrictions. Although the pandemic affected every school, the difficulties and responses of each context were unique. For Falk—a K-8 laboratory school connected to the University of Pittsburgh—the pandemic challenged many of the core driving values of the school, including collaborative and hands-on learning, and limited the ways that technology was integrated into the school day. At the same time, Falk is founded on a progressive education philosophy that aims to center students in their learning and highlights the connections between academic, social, and emotional growth. The move to remote learning and the collective stress, uncertainty, and adaptation gave us as a community an opportunity to reflect on how progressive approaches can adapt to the world and the needs of the children living in difficult times.

It was this question that drove the research outlined here. In the Fall of 2021 we surveyed the caregivers, parents, staff, and teachers at Falk to see how lessons learned from weathering the storm could help us better understand how the school’s context, philosophy, and operations worked under such a massive strain. We wanted to better understand what held us together and the areas that we could improve upon—not just for such momentous moments but also for our day-to-day operations. As a community of learners, how could we learn from this moment in history and use our collective understanding to move educational possibilities forward? This paper will share how we designed our research into adult experiences of COVID-era learning and teaching, what we

have learned from the data, and how we see these findings moving our school community forward. As a laboratory school, the heart of our mission is to imagine, create, and study new possibilities in education; to that end, we hope to find ways to collectively learn from the at-times overwhelming lessons the past few years have taught us.

School Context

Founded in 1931, Falk is an independent K-8 laboratory school located on the campus of the University of Pittsburgh, a leading research university located in the urban landscape of the city of Pittsburgh. The progressive, experimental school enrolls about 436 students from over 40 Pittsburgh neighborhoods. Approximately 17% percent of students receive financial aid. Thirty-five percent of our students identify as people of color, more than nine heritage languages are spoken among our population, and a multitude of diverse family structures are represented in the student body. Nearly half of the students have a family member employed by one of the nearby universities—University of Pittsburgh, Carlow University, and Carnegie Mellon University.

In addition to educating students, Falk serves as a demonstration school, hosting more than two dozen student teachers and interns every year as they complete their student teaching requirements. Teachers routinely serve as mentor teachers, often hosting one or two full-time student teachers as well as student observers. In addition, departments and schools across the University of Pittsburgh regularly use the school as a site of educational and applied research. The charter agreement between the Falk family and the University of Pittsburgh explicitly states that both parties were “interested in the promotion of progressive methods of teaching” (Falk School Charter Agreement, 1930). In the nearly 100 years since its founding, the school has tried to balance staying true to its roots

with reflecting on what works and what does not, and with being open to the new ways of teaching and learning that evolve.

Research Problem and Question

When the sudden, abrupt shift required by the pandemic first hit in spring 2020, there was little room for anything but immediate action. Decisions were made quickly, needs shifted often, and teachers and caregivers were focused almost exclusively on the here-and-now, both in terms of teaching and learning and in life more broadly. However, as with all crises, as the initial phase passed, and our school community began to settle into new rhythms and routines, we were able individually and collectively to take a step back and consider how best to approach pandemic-era schooling. Furthermore, as this period extended over the 2020-2021 school year, what “pandemic-era schooling” looked like changed again. And again. From a fully remote model in spring of 2020, Falk moved to a hybrid system for the 2020-2021 school year. This involved moving the middle school to a local synagogue, splitting classes in half with teachers going between “pods” and using technology and colleagues to support learning across two rooms, and moving to fully remote when the local realities of COVID-19 demanded it. There was no interaction between pods, and no visitors were allowed in the building, including parents and caregivers who previously had volunteered, visited, and joined in school events on a regular basis. In addition, Falk offered families the opportunity to remain fully remote, with specific teachers supporting distance learners.

These realities required massive changes on the part of families and teachers. In a school that was centered on collaborative learning, hands-on experiences, and mixed-age learning (both across grade levels and across family generations), the adaptations demanded were overwhelming. An added complication was that prior to the pandemic, Falk had been deliberate in its limitation of technology within the school—now, suddenly, it was a daily necessity. While we were fortunate to have the resources necessary to ensure that all children had the technological tools necessary to complete their work, curricula had to be revised and new boundaries and opportunities had to be negotiated. Teachers and administrations wondered how we could remain inclusive, collective, and hands-on in these challenging times, all while keeping our community both within the school and more broadly safe during the ongoing health-related challenges of the pandemic. As a relatively small and close-knit community, we wondered how we could sustain these ties.

As we entered Fall 2021 and the school entered a more “typical” year (albeit with its own challenges), we wanted to capture this moment in time from the perspectives of

the adults in our community—parents/caregivers, staff, and teachers. Not only did we seek to better understand the impact the pandemic had on all of us, but we also wanted to learn from our responses to support our school moving forward. Moreover, as a laboratory school, we endeavored to offer lessons learned to other school communities, in the hopes that our collective learning would not only support future times of crisis, but also help us reflect on our mission during more typical school experiences. Our research was driven by two core questions:

How did families/staff/teachers feel COVID and the shift to online instruction/modified impacted their relationship with the school and its mission as a progressive hands-on educational context?

How do families/staff/teachers feel COVID and the shift to online instruction and pods impacted student learning and well-being, as well as a sense of community?

These questions drove the development of an online survey that was distributed to all adults in the school community in Fall 2021.

Literature Review

Our study was centered both on our philosophy as a laboratory school community, as well as on our rapidly evolving understanding of the impacts of COVID on K-8 education. In particular, we were aware of the challenges of going from a school focused on hands-on learning and collaboration (within classrooms and across grade bands), to a style of schooling that was mediated through technology and often isolated or individual.

Progressive/Hands-On Educational Approach

In a post for Bank Street Teachers College, Alfie Kohn writes that “if progressive education doesn’t lend itself to a single fixed definition, that seems fitting in light of its reputation for resisting conformity and standardization” (2015, p. 2). He argues that we should refer to progressive education as a “tradition,” rather than an approach, to recognize the complexities and variability of schools and educators who fall under this umbrella. Similarly, Kohn’s work reminds us that progressive education does not exist in a vacuum, and that it is foolish to assume or require a binary between “traditional” methods and progressive approaches, as almost all schools are influenced by both educational theories.

Ackerman (2003) goes so far as to say that maintaining this false binary does a disservice to educational equity and improvement. She argues that schools benefit most from looking across the various histories and approaches in order to find what works best at a specific site. At Falk, we aim to embrace this tension and see our version of being a progressive school as one of inquiry and adaptation, rather than adherence to a specific set of pedagogical and curricular approaches.

However, our roots and ongoing connection to progressive education do deeply influence our decisions as a school community. Kohn (2015) lists attributes that he sees as core to the work of progressive education: (a) attending to the whole child, (b) community, (c) collaboration, (d) social justice, (e) intrinsic motivation, (f) deep understanding, (g) active learning, and (h) taking kids seriously. These motivators are present across all aspects of teaching and learning at Falk and are aligned with our “21 wishes,” which serves as a shared guiding document for the community (Falk Laboratory School, n.d.). The COVID-19 pandemic challenged all of these goals, but most immediately or explicitly affected community, collaboration, and active learning. What did these principles mean in a time of physical isolation, digitally-mediated learning and teaching, and uncertainty about almost every aspect of school and society?

Perhaps the impact was most clear when it came to the belief that progressive education needs to be hands-on and collaborative in order to best support student learning. This approach is centered on Falk’s efforts to make project-based learning a core aspect across subjects and grade levels. In a study of collaborative project-based work in ELA settings, Shin (2008) found that project-based learning improved students’ motivation and communication skills. In addition, the author surveyed students after the project and found that they were positive about the experience and felt that the approach helped them learn and grow more than their traditional curriculum. This finding was born out in a meta-analysis on the effects of project-based learning on academic achievement (Chen & Yang, 2019). Their work found that in schools with a project-based approach, there was a “medium-to-large mean effect size” for student achievement (Chen & Yang, 2019, p. 76). The authors noted that the impact was higher in the social sciences than in science or math, and that the impact was greater for children in North America, Europe, and Western Asian contexts, compared to East Asian school settings. However, they did not find significant differences when it came to grade level or size of class/group.

Given the evidence-based support for project-based learning, as well as the history of this approach as an integral element of Falk, when the pandemic hit we had to reimagine

what was possible, especially during the early days of the pandemic. As mentioned above, this issue was exacerbated by Falk’s tendency to utilize technology carefully, often limiting its presence in the classroom. Although research has shown that technology can be a core element of modern progressive education and project-based learning (Atabek, 2020; Ramic-Brkic, 2018), Falk had not fully explored these possibilities prior to the pandemic. This meant that in addition to dealing with the sudden realities of remote learning, Falk families and teachers were also learning new technological platforms, approaches, and norms. This issue became one of particular curiosity for us in our research as we explored the ways that the abrupt change toward a technology-mediated approach forced us to rethink what some of our core drivers meant during this era.

Impacts of COVID on School Experiences

Given the recent nature of the COVID-19 pandemic, there is still only emerging research on the impact it has had on school and children worldwide. That said, as we undertook this project, we were guided by what some of these early results could tell us about how our situation was similar and/or different from other contexts. One issue that regularly arose was the impact on children’s motivation to learn during distance learning; because of our child-centered approach, we were particularly concerned with how we could keep our students intrinsically motivated and ensure that they were reaching basic academic milestones appropriate for their development. We knew from conversation with local school partners that this issue was one that affected all of us.

Current research on online learning shows that this concern is a worldwide impact of the pandemic (Chiu et al., 2021). While some schools had been utilizing online learning before the pandemic, the authors explored how the abrupt shift highlighted several areas of tension or ill-preparedness: teachers’ comfort or knowledge about online pedagogy, technological infrastructure to support quality learning, and students’ “learning repertoire” for fully engaging in technology-mediated learning (p. 187). In particular, the authors’ research suggests that a main concern is that with the lack of experience and preparation, children’s motivation for learning drops significantly with the move to distance learning.

It is important to note that these authors and others do not believe that online learning is inherently less engaging or more successful than face-to-face instruction; rather, they argue that because the current educational system is founded on the concept of being present together in one space, just moving the same instruction online is not going to be effective (Chiu & Hew, 2018; Hartnett, 2016; Tsai et al., 2013). However, as

a school that not only had operated entirely face-to-face but has carefully considered the integration of any technology, we know that these factors were important for us to consider. We wondered how teachers, families, and students adapted to the new approaches mandated by the necessity of the pandemic.

While these challenges were particularly noticeable during the first phase of the pandemic where we were all staying home and working remotely, they remained significant as we shifted to a “pod” system with teachers supporting two or more insular small groups of children, aided by other staff and technology such as Zoom or Google Classroom. This “blended learning” approach (Dziuban et al., 2018; Hrastinski, 2019) is one that likely will continue to impact how we think about educational opportunities and possibilities, even as a more typical building-based education becomes the norm once again. As the authors of these studies point out, main issues that impact these approaches are equal access to technology, sufficient teacher training in specific online pedagogies, and continuing to foster collaborative learning among students. In our work, we wanted to see how our community adapted to these various shifts in practice, as well as consider what lessons the changes taught us about the future of education at Falk.

Methodology

In the Fall of 2021, a Qualtrics survey was distributed to all caregivers/parents, staff, and teachers who were working at Falk School. This survey was adapted from one developed by the Jackman Institute for Child Studies at OISE and was designed to gather data on the impacts that COVID-19 had on families’ and teachers’ connections to the school, as well as on the children’s academic and socioemotional development. Both Likert-scale and open-ended questions were used, with the Likert-scale questions specifically connected to the research goals listed above. Participants included families who had children at Falk in the 2020-2021 and/or 2021-2022 academic year, as well as any staff or faculty who had been at Falk during this time and were still actively involved in the school. In the survey, participants were asked to identify if they were parents/caregivers, teachers, or both. Similarly, everyone was asked what years they had been a part of the Falk community. The survey was open for six weeks during October and November of 2021. Everyone was made aware of the survey via the email messaging system used by the school.

A total of 493 responses were recorded, although some responses were incomplete or opened but never completed; 326 were deemed complete enough to be included in the final analysis of the data. Of these complete responses, 292 identified as parent/caregiver, and 34 identified as a teacher or staff member. Due to the nature of how the data was

recorded, it is not possible to know which of these surveys were completed by one person who identified as a teacher and a parent/caregiver unless they self-identified in this role in their responses, as they would have checked both boxes and filled out the answers for both sections of the survey. However, knowing the population, there are only a handful of people who would have been in this position. It is unlikely that their responses would have changed the analysis of the data.

Likert-scale questions were analyzed for mean and median responses, as well as reviewed for significant outliers and frequency counts (Boone & Boone, 2012). The Likert-scale questions were concerned with how the pandemic impacted families, teachers, and children, and all were based on a 10-point scale, with (1) being *significantly and negatively* and (10) being *significantly and positively*. Open-ended answers were reviewed for theme, using both a priori and emergent codes (Denzin & Lincoln, 2007; Denzin, 2008). A grounded theory approach was used, where data was coded by topic and then codes were merged to develop larger themes across the responses. Data were coded using NVivo and reviewed by at least two members of the research team for accuracy and interrater reliability. A priori codes were *technology*, *socioemotional growth*, *connection with lab school mission*, and *academic development*. These codes were revised during review of the data, and additional codes were added that emerged from the analysis of the responses. Given that this was an anonymous survey distributed electronically, it was not possible to do any type of member check. Instead, the research team— all of whom were part of the Falk community in some way—reflected on how the data represented other forms of communication, including information conversations with parents and staff, emails, and information relayed during meetings.

Findings and Analysis

In our review of the data, three themes emerged as central to the community’s response to our research questions: (a) caregiver-as-teacher, (b) complications of infusing technology, and (c) importance of shared value of experimentation. Below we offer some details regarding each of these themes, as well as some of the codes or sub-topics that emerged through the analysis.

Caregiver-As-Teacher

Particularly during the initial intense phase of the pandemic, in the spring of 2020 when everyone was working and learning from home, both teachers and families reported a significant change in how they perceived the role of caregivers in the education of the students. Over 40% of adults surveyed

said that they felt the COVID-19 pandemic impacted their “ability to support their child(ren)’s academic learning” in a negative way (mean score of 4.97). Similarly, families reported that they felt that the COVID-19 pandemic had a significant and negative impact on their child(ren)’s academic growth (mean score of 4.88), as well as the adults’ ability to support the children emotionally through this time (mean score of 4.66). Thus, unsurprisingly, there was a shared sense that overall, the pandemic had had negative impacts on children’s learning, as well as on parents’ and teachers’ sense of efficacy in supporting these goals.

A review of the qualitative data bore out these themes, as well as offering further insights into some of the areas of stress or uncertainty that emerged. One area that was of particular significance across the data was the shifting roles and responsibilities in terms of actual academic support, connections between home and school, and methods of community. From these findings emerged the theme of “caregiver-as-teacher”; we defined this theme as data related to both families’ and teachers’ awareness of the shifting roles required during both the fully remote phase of Falk’s response, as well as the more complicated hybrid system that existed for the 2020-2021 academic year. We included in this theme both positive and negative responses, as well as both the academic and emotional support that teachers provide to children in a holistic educational context.

Many of the caregivers reported that they struggled with combining their role as parent with that of teacher toward their child. Most often, this tension was perceived as a negative one. Families shared that they felt ill-equipped to support their children in developing academic skills. One parent shared concerns about competing roles, stating, “Parenting a child through the pandemic and teaching them at the same time were incompatible for our family.” Another common concern was balancing work requirements with school support, as evidenced in the following statement: “We chose to participate in Distance Learning. That created challenges in terms of managing the technology as well as negotiating our work schedules while supporting our child’s learning.” Finally, another major issue was the differences between the parents’ educational knowledge and experiences and the approaches of the school for children:

Primarily, as a parent, I had to get up to speed on how to support my child in learning online. I had to learn how Falk teachers approached teaching my child and what methods were being used. My grade school experience was very different from how and what my child is being taught. To jump into Assistant teacher without any training was super challenging for both myself and my child.

These quotes represent a broader theme of concern from families on their own ability to support children, outside of the concerns of keeping children motivated during remote learning. Rather, this theme focused more on the complicated roles that families had to play, often at the same time. While previously there had been more clear separation of parental support and teaching, now families and teachers found they were struggling to figure out the new balance. Within this theme, families identified several specific pressure points, including lack of professional training regarding teaching methods; different emotional roles of teacher and parent; and increased isolation from the school due to mitigation efforts, even after the majority of students returned to face-to-face learning in the Fall of 2020.

Similarly, teachers recognized these challenges and struggled with their own responses to support remote learning. However, they placed less emphasis on the role of the caregiver as the teacher, and instead discussed how they felt ill-prepared or supported to engage students in learning remotely although they did note the complication of children learning from their homes. Parents shared comments along the lines of: “It was too much parental work” and “not being sure about the role of families at home during instruction.” Teachers shared similar concerns:

The shift from DL [distance learning] to on site and back to DL was challenging for all.

The shift to smaller groups last year was hard for some, especially if the group was prone to dysfunction, and the shift to full (24) classes was once again hard for some students because they get half as much air time/attention. So there were/are social/emotional and academic challenges for many students.

The major shift is that my planning is out there for all to see—the other teachers I work with, the parents, the students. I feel the need to make everything as accessible as possible so that anyone who may benefit from having that knowledge has access. That brings its own sense of pressure for generating all of that information beyond my personal notebooks. Prior to the pandemic, I did most of my planning in a journal.

Overall, it was clear that both teachers and families had concerns about their ability to communicate and support students effectively; however, there were important differences in their perspectives as well. Many of the teachers’ responses

lumped together the difficulty of teaching children learning at home and those who were being supported by other adults in the school building during the hybrid use of *pods* (i.e., split classes where the main teacher went between two rooms with the support of another teacher). It is important to note that several teachers also mentioned their own roles as caregivers/parents, and the added stress that balancing these roles gave them as well. Both groups of adults noted that there was little support for families in supporting student learning, but that the stress and pace of pandemic-era schooling did not allow for this aspect of communication to be developed.

Complications of Infusing Technology

As mentioned above, prior to the spring of 2020, technology was used at Falk in limited ways, with the school often leaning toward reducing a reliance on educational technology or digital instruction. There had to be explicit conversations with faculty and staff around seeing technology as one tool and a shared question of “why” when using these tools. Thus, when the pandemic hit, teachers, staff, and families were forced to scramble to adopt and learn various systems including Zoom, Canvas, Google Classroom, and online resources for some of the schoolwide curricula in use. Over 35% of all parent/caregiver responses to the question “What challenges did you and your child(ren) face during pandemic learning” had to do with some aspect of technology, and 40% of teacher responses did as well. Specific issues included understanding the technology; concerns over the increased screen time for children; and issues of motivation, particularly for the younger learners.

When it came to adapting to technology, both teachers and families discussed the steep learning curve at the start of the pandemic era. Many parents mentioned the difficulty of knowing whether or not children were making academic progress: “Challenges of navigating technology. It was difficult early on in the pandemic to know whether my daughter was meeting the appropriate learning milestones.” Other concerns were around the sudden explosion of multiple technology tools and learning platforms:

Learning a brand-new platform (Canvas) while learning how to use an Ipad, Zoom, a new schedule, YouTube, etc., all while adjusting teaching style that does not match how we were trained to teach or how students learn. Every time the laptop opened, there were also 20 new emails to read, and that became overwhelming.

In some ways, it was clear that because of the lack of digital tools used before the pandemic, many in the community felt

the pressure of a “see what sticks” approach in the early days, which led to a sense of frustration and being overwhelmed. As the community adapted to that challenge and moved to a hybrid pod approach, the concerns around technology shifted toward worrying about the amount of screen time and the changes to the school culture. One parent shared that the biggest struggle was “isolation due to pod structure, less support for academic needs, overwhelming amount of dependence on technology, even during in-person learning. These challenges are still continuing.” Another common theme was the tension between independent technology-mediated work and the school’s mission: “I struggled with teaching via technology and social distancing in a program that prioritizes social constructivism as a primary approach to learning.”

While some referenced the ongoing shifts in terms of technology use as an area of concern, it is also important to note that some families and teachers found that these new tools and options are incredibly useful and exciting as part of the school. Responses to the question “What were (if any) surprise benefits of pandemic learning?” included ways that technology supported learning and school-home connections. Examples of these sentiments were coded in statements such as, “There are many resources online and I hope that Falk will continue to provide those for families, whether through schooling or after school activities” and “I feel like I have an arsenal of lessons that make sense in an online format that I could use in the future, even for the classroom. I’ve built relationships with kids in different ways, which I value.” Teachers also discussed how technology supported connections with families and students in building community: “Digital tools for presenting materials to a whole group while they are distanced—for example, Bridges Mathematics Digital Materials, picture books, using photos of things and projecting them large for everyone to see Zoom parent conferences are so convenient!”

While parent/caregiver responses were more about ways to connect with the school and have additional flexibility, the vast majority of teacher responses not only included technology as a “surprise benefit” (71% of responses included mention of technology) but focused both on family communication and improved practice in the regular classroom. Both teachers and families identified technology as an aspect of instruction and school culture that they hope to continue to integrate, even though all desire a return to in-person instruction as the core approach for the school.

Importance of Shared Value of Experimentation and Child-Centered Pedagogy

While the survey did highlight a small percentage of families and teachers who were overall negative about the school

approach and response to COVID-era learning, the majority of responses indicated that they felt the school community did a good job in incredibly difficult and stressful times. When asked “On a scale of 1-10, how did COVID-era learning impact your feeling of connection to the school,” the mean score was 5.24, with 22% reported no change, and approximately 38% of respondents saying they had a somewhat to significantly improved positive connection to the school. Many of the open-ended responses described how they felt the school did a good job of balancing health, emotional, and academic needs. In particular, two topics seemed to be of particular salience to the community. When asked “How did the lab school’s philosophy, values, and/or principles affect your experience of pandemic learning,” both families and teachers/staff reported favorably about the culture of experimentation and that of centering the whole child in the classroom.

Culture of Experimentation

As a progressive laboratory school, Falk’s mission is centered in educational experimentation in the pursuit of more equitable and engaging pedagogical opportunities. This shared value supported both families and teachers during the pandemic when things were changing rapidly, and everyone was being asked to adjust quickly and frequently. A common theme in the data was how the permission and trust to try to learn from success and challenge was critical in the pandemic response: “The spirit of experimentation was important during the pandemic. Being inventive and creative in how we solve problems is something I value in our community”; “I felt supported in experimenting with new curriculum and modes of instruction”; “The teachers and staff truly are super heroes. Their creativity and ability to think out of the box to make a sense of community and teach these kids such amazing content was incredible.” Teachers often talked about how these experiences were echoing our goals for the children as learners:

I try to teach my kids to be problem solvers, to be resilient, to strive to do their best, whatever their best might be, and to recognize the learning that comes from making mistakes. That is how I have had to respond to this pandemic. I have had to be ok with missteps and failures and be willing to pick myself up, dust myself off, and get back at it.

Families also highlighted how the school’s culture and approach helped them shift expectations around learning and engagements during the pandemic: “I think that Falk’s environment really helped us as parents not stress too much about deficits in learning. Because my children are learning

to love learning, they will be able to catch up and continue to progress”; “We really appreciated the continual focus on improving best practices as more was learned about remote and in person pandemic learning. The faculty showed creativity in confronting various obstacles.”

While overall the responses reflected a positive response to the shared value of experimentation, it is important to note that there was a sizeable minority (approximately 17% of responses) who felt that the school was overly concerned with schedules and COVID-responses, and therefore did not allow for enough of the progressive experimental philosophy to come through. These responses clustered around three topics: (a) feelings that the health and safety protocols were overly cautious and impacting the school culture, (b) worries about meeting individual needs (both those of teacher and child), and (c)—for the teachers—a feeling that the rapidly changing landscape did not leave enough time to fully plan for best practices in both online and hybrid settings. In addition, there was concern about the school’s long-term response and how these rapid changes might impact the future of the school culture.

Child-Centered Approach

The other aspect of the lab school culture that families and teachers valued was that of honoring and respecting the child as a holistic being through the trials of the pandemic. Other than a minority of family responses who felt that the school’s safety protocols were significantly and unnecessarily damaging to children’s well-being (approximately 8% of parent/caregiver responses), there was a collective sense that the school relied on this philosophy to guide decisions during a difficult time. Many parents specifically mentioned mental health as a core value: “It was a huge challenge in March of 2020 and our teachers didn’t put pressure on us/students ...stayed true to Falk philosophy”; “There was a dedication to honoring the whole child, not just academic benchmarks. Also respect for differences amongst families in regard to COVID risk aversion (options for virtual etc).” Teachers and caregivers recognized the need to connect learning with wellbeing:

We have really appreciated the school’s holistic perspective on taking care of our children and know that it has been extremely challenging and unprecedented[sic]. Yet, Falk has done an amazing job of considering and truly protecting and nurturing our child’s physical health, mental and social health, in addition to academics.

I learned that with or without a pandemic, supporting their wellbeing and engagement is

at the core of any learning. Without there is no learning, With it, the learning potential is endless. I also learned that regular check-ins, both individual and group ones, as well as modeling self-care, are of the essence.

More than with any other theme that emerged in our analysis, families and teachers agreed that this cornerstone of the Falk philosophy remained true and guided practice during both the immediate response in Spring 2020 and the ongoing changes of the 2020-2021 academic year. In addition, many families made comparisons to experiences at other local schools—both public and private—where they felt that the emphasis was solely or overwhelmingly focused on academic benchmarks without consideration for other aspects of learning and growing. This shared response demonstrates the importance of a clearly-stated and shared philosophy of learning as a school community.

Conclusion

In ways we both immediately recognized and in ways we never could have imagined, the pandemic tested us as a school community centered on collaborative learning, student engagement, and hands-on experiences. Our research set out to determine how—with the limitations and focus on immediate safety and well-being—we could continue to build on our core values and shared understandings. What became clear from the research is the importance of a shared vision and philosophy as a school community; while this core connection did not remove obstacles, it did make it possible for teachers and families to work together to support student learning over changing and difficult periods. More specifically, the shared value of experimentation and curiosity allowed teachers, parents, and students to lean into the discomfort of the unknown, creating new pathways for learning and developing community. This research shows the importance of shared communication and connection, so that there is trust in teachers' work, as well as the need for an administrative and school culture that gives teachers space to try new things and adapt without immediate consequences or narrow views of educational success. It also demonstrated the critical need for communication and family learning, as well as student learning, to be present in having true partnership and collaboration around schooling.

In addition, the pandemic-era demonstrated to us that we live in a new relationship with technology—both when the situation requires remote learning and more generally. As with the broader goals of the school, teachers and families must understand one another's perspectives on the integration

of technology so that the best decisions can be made for the particular context. It is no longer enough to try and limit technology in the school; rather, the same careful approach to how and when to integrate these tools must be used as with any other learning space or approach in the classroom. Progressive education can and should adapt to the current times.

Our research also focused on exploring impacts on student development and well-being, as our school is typically focused on centering socio-emotional growth as intertwined with academic achievement. The data made it clear that especially after a period of intense stress and change, centering the whole child—and indeed the whole family, teachers, and so forth—was critical for learning to continue in ways that promote well-being for all. Everyone was impacted differently by the pandemic, but the uncertainty and stress affected everyone, including children. While the COVID-era highlighted the importance of well-being at the heart of learning, it is a critical piece of school contexts that should be considered at all times. Promoting connection, well-being, and taking a long-view on education supported students, teachers, and families in staying connected to the Falk School during the pandemic and in helping us envision what might change and grow in the upcoming years.

Key take-aways:

1. The importance of deep and shared understandings of a school's core philosophy or approach. These allowed for quick decision making that supported ongoing connection between families, teachers, and staff.
2. The need for schools to promote a growth mindset and an inquiry framework for teachers as well as students. This spirit of experimentation supported everyone in the midst of the pandemic.
3. Schools can benefit from thinking about what positive or productive changes or new types of learning the pandemic created in our various contexts, such as the integration of technology. Finding true positives and new learnings helped us move forward as a community and come back together after isolation.
4. Our experience of the COVID-19 pandemic highlighted the critical need for all schools to center children as whole beings, to focus on socio-emotional growth as well as academic achievement, and to be responsive to the environment and needs of the children and their families.

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Understanding the Experiences of Grade 7-12 Laboratory School Teachers with Supporting Remote Learning During the COVID-19 Pandemic

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“Last year is the hardest I’ve ever worked. Even harder than in my very first year of teaching when everything was new.” (Teacher, UTS)

The UTS lab school is a well-established co-educational institution in Toronto with a long-time affiliation with the University of Toronto. It is a university preparatory school with students in Grades 7 through 12. The school aims to graduate students who are life-long learners and are socially responsible global citizens. As a result of a relatively competitive admission process, the students tend to be high achieving and engaged. Culturally, the student population is relatively diverse. As part of the affiliation with the University, there is a cohort of Master of Teaching (MT) candidates who connect with the school, practice teaching in classes in some cases, and participate in the student life of the school. The school has a strong administrative team with portfolios that include teacher learning, student support, and parent/caregiver engagement. At the onset of school closures resulting from the COVID-19 pandemic in March 2020, the administrative team provided learning opportunities and support as classes moved online. With the re-opening of schools in September 2020, the school developed a hybrid classroom design with the aim of best supporting students who attended both online and in-person. This tech setup involved a relatively seamless single connection to a high-quality microphone, reasonable web-camera, and multiple screens (including an 80-inch TV) to allow the teacher to see and interact with all their students. In addition to the MT-UTS cohort, a number of the school staff teach or have taught in the MT program including two of the principal investigators for this study.

Research Problem and Question

Since March 2020, continuously shifting public health recommendations in Ontario meant that schools needed to pivot between “fully online” (i.e., all students are learning online), “alternating hybrid” (i.e., students are split into two groups that alternate between in-person and hybrid learning), and “blended hybrid” (i.e., the class has a mix of in-person and online students with both modalities being taught at the same

time) (Bartlett, 2022). By the winter of 2022, many classes had returned to in-person learning, with some continuing in the “blended hybrid” format based on the individual circumstances of particular students and/or teachers. Others have referred to this format as “dual delivery” (MacKinnon, 2022) or “synchronous distributed” (Online Learning Consortium, 2015).

In light of ongoing public health concerns in Ontario as we head into 2022-2023, it is of particular importance to capture the lived experiences (e.g., strategies, challenges, supports, etc.) of stakeholders within our laboratory school during emergency remote teaching (ERT) in order to learn how to best support teaching and learning going forward. Furthermore, we wanted to learn from the experiences of other schools, through our participation in the IALS and through examination of the growing literature in this area. Specifically, we chose to focus our initial investigation on the experiences and perceptions of teachers, including pre-service teacher candidates.

Three overall questions guided this study:

1. What were the impacts of ERT for teachers?
2. What do teachers see as the main impacts of ERT for their students?
3. What can we learn from the ERT experience to best support teachers and students going forward?

There are a number of studies that focus specifically on teacher experiences and perceptions. This study will add to that literature from the perspective of a laboratory school within the Canadian (specifically Ontario) context. It is worth noting that education in Canada is overseen at a provincial, not national level. Furthermore, public health recommendations varied from region to region, even within Ontario, so contextualizing ERT within the local landscape will allow for a more nuanced understanding to add to the overall global

efforts to deconstruct what has happened in the education sector since the onset of COVID-19.

Literature Review

Within the literature, there is no generally accepted consensus on the definitions of “online learning” and “hybrid learning.” These are broad terms that do not adequately—on their own—reflect the range of possible modes of remote course delivery. Yet, it is important to have a more nuanced definition of each that can help “account for observed variations” in teacher and student experiences, and “to inform decision-making” (Bartlett, 2022, p. 154). See MacKinnon (2022) and Concord Consortium (2015) for examples of such definitions.

Despite this lack of consensus, there have been numerous recent studies claiming to examine the pivot to emergency remote teaching (ERT) during the COVID-19 pandemic, which tends to encompass both online and hybrid forms of instruction. A general search of peer-reviewed sources in the Education Source database as of September 5, 2022, making reference to either “COVID-19” or “coronavirus,” yielded 16,276 results. Approximately 80% of these were published within the last year alone. A relatively small subset of these studies was found to examine teacher experiences in secondary learning contexts. None of these were found to have examined teacher experiences within laboratory school contexts.

Much of the research to date on teacher experiences during the COVID-19 pandemic point to a number of key challenges experienced, including:

- Lack of teacher preparation for the sudden pivot to remote teaching (Boltz et al., 2021),
- Lack of student participation and/or engagement in remote learning (Catalano et al., 2021; Leech et al., 2022; Yunjo et al., 2021),
- Concerns about teacher and student wellbeing (Kim et al., 2022), and
- The need to adjust approaches to assessment and evaluation (Tinterri et al., 2021).

Calls to action highlight the need for increased “capacity to react effectively and efficiently in the future” in the event of disruptions resulting from pandemics but also “natural, political, economic, and environmental disorder” (Schlecher, 2020, p. 26). Early studies have already pointed to areas for further development, including improving teachers’ digital competence (Carver & Shanks, 2021; Scully et al., 2021),

addressing digital inequities (Bozkurt et al., 2020), and addressing the need for improved ICT infrastructure and e-learning quality assurance (Kara, 2021). There is also a need to address the gap in the literature addressing the experiences of laboratory schools as a specific context.

Methodology

This study used a qualitative, case study approach, using a combination of survey data and follow up interviews. Forty-six teachers completed an online survey (a 71% response rate) that had a combination of closed-ended and open-ended questions, and 5 follow up interviews were conducted with teachers. Although the study primarily focused on teacher data, 16 first year teacher candidates from the MT-UTS cohort also completed an online survey (a 61% response rate) that combined closed-ended and open-ended questions, to support a more robust overall picture of the laboratory school experience.

The survey was distributed to teachers and teacher candidates during January of 2022. Teachers were given time during a scheduled staff meeting to complete the survey. Teacher candidates were invited to complete the online survey through their Learning Management System at a time most convenient to them within a one-week period, so they could work around their own class schedule. The follow up interviews with teachers were conducted over May and June 2022 by a doctoral research assistant who had no connection to the school or to the MT program. All survey data was collected anonymously. All interviews were transcribed and anonymized by the research assistant before sharing with the primary investigators due to their relationship to the school (i.e., school administrator and instructors of the teacher candidates in the MT-UTS cohort).

Open-ended survey responses were analyzed using a grounded approach to look for themes that emerged. The two principal investigators for the study collaborated throughout the coding process to ensure consensus building (Saldaña, 2016) and collectively constructed the final themes reported herein.

The questions in the survey and follow up interviews focused on six main areas: (a) challenges, (b) supports, (c) tools and strategies implemented, (d) shifts made over in-person, fully online, and hybrid teaching, (e) supporting student well-being and engagement in their learning, and (f) key takeaways from the pandemic teaching experience.

Findings

The findings report results from both the close-ended survey questions, and a thematic analysis of the open-ended survey questions and interviews. The results of the data

from the in-service teachers are reported first, with a section dedicated to summarizing and providing some comparisons with respect to the data from the teacher candidates.

Teachers’ Background Data

The majority of the teachers who completed the survey have been teaching for 15 or more years (Figure 1) and were teaching at UTS at the start of the pandemic (Figure 2). Only four of the teachers surveyed had begun teaching at UTS in the 2021-2022 school year.

When asked about their comfort level with technology prior to the pandemic and since the pandemic, there was a notable decrease in the number of teachers who described themselves as “somewhat” or “extremely” uncomfortable. Prior to the pandemic, 22% described themselves as uncomfortable with technology whereas only 4% described themselves as uncomfortable at the time of the survey.

Another notable finding from the survey was that more than a third of the teachers (i.e., 37%) admitted that they had considered leaving the teaching profession since the start of the pandemic.

Challenges and Supports

The teachers were asked to rate the degree to which certain factors were experienced as challenges during the pandemic and the degree to which they felt supported in working through those challenges. As indicated in Table 1, teachers tended to rate online/hybrid teaching, maintaining a sense of community with colleagues, and maintaining a sense of personal wellness as the most (extremely) challenging. The area that teachers tended to feel the least supported was maintaining student engagement, with only 37% feeling supported. Areas where teachers were most likely (>10%) to report that they were “not at all supported” were maintaining a sense of community with students and colleagues and maintaining a sense of personal wellness. The findings also suggest that teachers felt the most supported in dealing with technological challenges (a notable distinction from findings in the literature), which may reflect the fact that there was a technical support department at UTS, a full-time administrator overseeing teacher learning who was able to support professional development in teaching with technology, as well as a lead teacher who was given course release time to provide additional supports with technology during COVID.

Figure 1

Number of Years in Teaching (n=46)

● Yes	42
● No	4



Figure 2

Teachers Who Taught at UTS in the 2020-2021 School Year (n=46)

● 0-5 years	4
● 6-10 years	6
● 11-15 years	6
● More than 15 years	30

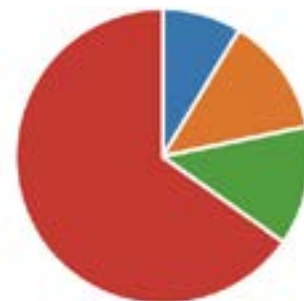


Table 1

Perceived Level of Challenge and Support for Teachers (%)

	Perceived Level of Challenge (%)			Perceived Level of Support (%)			
	Somewhat Challenging	Challenging	Extremely Challenging	Supported	Somewhat Unsupported	Not At All Supported	Neutral
Technological challenges	47.8	30.4	4.3	89.1	10.9	0.0	0.0
Maintaining student engagement	32.6	45.7	19.6	37.0	50.0	4.3	8.7
Online/hybrid teaching pedagogy	26.1	37.0	32.6	63.1	28.3	8.7	0.0
Parental expectations	39.1	8.7	2.2	58.7	26.1	6.5	8.7
Ability to provide individual attention to students	32.6	28.3	23.9	43.5	37.0	8.7	10.9
Providing good formative assessment online	30.4	28.3	8.7	52.2	26.1	8.7	13.0
Providing good summative assessment/evaluation online	37.0	19.6	17.4	50.0	28.3	8.7	13.0
Maintaining a sense of community with my students	34.8	37.0	23.9	47.8	34.8	10.9	6.5
Maintaining a sense of community with my colleagues	28.3	32.6	37.0	45.7	34.8	17.4	2.2
Maintaining a sense of personal wellness	19.6	39.1	32.6	50.0	34.8	15.2	0.0
Equity, diversity, inclusion, anti-racism teaching/learning/conversations	28.9	37.8	4.4	57.7	22.2	4.4	15.6

Thematic Analysis of Open-Ended Responses and Interviews

There were six major themes that emerged from the analysis of the open-ended survey questions and the interviews with teachers. These themes are:

- importance of Social Presence,
- coping,
- students at the Centre,
- the role of technology,
- technological skepticism, and
- in-school support.

Theme 1: Importance of Social Presence

During the consensus-building stage of the data analysis, one of the interesting findings that emerged was the degree to which the importance of issues related to social presence was apparent. According to the Community of Inquiry framework proposed by Garrison et al. (2000), social presence is one of three necessary components for sustaining inquiry in online learning. One of the most common areas where the importance of social presence was identified was in maintaining a connection and sense of community with students. One teacher says,

I find creating a community for all students to be hardest during online and hybrid learning. Keeping on top of their understanding of material is easy to do online but creating connections between students can be difficult. I did a lot of breakout rooms but students often would not put

on their cameras or mics during those breakout rooms so they didn't fully interact with one another.

Additional comments included that

[i]t was harder to forge personal relationships with the more introverted students who didn't want to turn cameras on or participate. And it was sometimes tricky to persuade them to connect with one another on group work. A lot of students were great about it (overall I was impressed by how they rose to the challenge) but there were definitely some who avoided engaging either with me or their classmates.

I tried to mix community and individual support in my classes, creating time for each during most classes, more so for the former than I have done pre-pandemic. I often found myself very dispirited after the conclusion of online or hybrid classes, as it was rarely clear how well things had gone as I couldn't check in with the class very easily/authentically.

One teacher also mentioned that they felt the online context may have created more discomfort for some students in sharing their ideas with their peers:

I tried to start classes with a check-in or a group activity to engage them. Students who turned cameras on got more out of it but there was never a real sense of the whole group working together effectively. I noticed that students were much more wary of sharing than in the regular classroom. They became more distant and removed from communication with me and with one another.

A number of teachers mentioned that students having cameras turned off during online classes was a particular challenge, with comments such as, "when the cameras were off and no answers or feedback was provided, it was challenging to work with so little coming from the students"; "I also found it hard to connect with students with their cameras off. It felt like I was talking to a wall much of the time"; "students were not obliged to turn on cameras for online work. In a subject area that is based in human interaction, this renders the program quite meaningless"; and "crickets on the other end—getting students to engage with video, in chat, on microphone — [it was] just too easy for students to hide and not engage."

Similarly, another teacher reported:

Maintaining the perceived student engagement in class would be the biggest [challenge]. I say this because for the most part a class would consist of silent icons on the screen. However, I tried to create some sense of connection and for the most part students seem to have been there when I called upon them to manifest themselves at various points.

For many teachers, finding time to meet with students one-on-one or in small groups, in some cases at the cost of their personal time, became of utmost importance to "[make] sure each student had support and was 'seen'." Teachers shared, "I ended up scheduling one-on-one meets with online students during my break times/lunch and after school to build a connection"; "I use a "help line" [Google] Meet channel open with all online classes which allows students to access me whenever they need assistance, have questions or require additional instructions." And another stated:

I scheduled 5 minute conferences with each student every class, and booked longer discussions on evenings and weekends for senior students who needed support for university applications. Connection to students improved but at a cost to my personal time, friends and family.

One teacher highlighted how their approach to creating a personal connection with students evolved over time:

In the beginning I felt like I was running a YouTube show, like some sort of online personality, and felt I needed to have lots of little activities and variety. I still keep that in mind, but now give much more attention to making sure I touch base with as many as possible individually.

Theme 2: Coping

There were a number of comments from teachers that pointed to their efforts to "navigate the storm," including dealing with high levels of stress, and balancing work/school and home life. One teacher shared the struggle of having her "own children at home and teaching at the same time; preparation time (lack thereof) because when I'm home, I focus on the things in front of me at home." Other teachers made similar comments:

Everyone has struggled with the mental challenges around living through this. For some students, it has been very difficult to find motivation and/or a sense of purpose when the world seems to be on fire. I am impressed with how so many of them have persevered through all of it, but I worry about the cost of that. Maybe we will all come out of this with the satisfaction of having survived it, or maybe we will be profoundly =damaged.

Some students have better setups at home than others, not just technology, but quiet space to work (i.e. away from noisy family, parents' work calls, bored younger siblings....) these distractions were also emotionally draining for the students (e.g. embarrassing to students when their parents are arguing in background, or show that their house was not as big and fancy as more well-to-do peers' houses).

I was not always available as I would be during a normal school day when my responsibilities were 100% at school. At the same time, I felt like I was working all the time (when I woke up, before bed, on the weekends - constantly checking in with students as I was working from home and the boundaries blurred).

Many teachers noted that they felt an increased need to focus on personal wellness for themselves and their students to cope with the various challenges they were facing at school and at home. One teacher put it succinctly by saying, "students can't learn when they're stressed." Another teacher noted, "I became more observant of small things, became more proactive in reaching out to students to make sure they were doing okay (if not well)." These sentiments were echoed by many participants:

Good humour, weekly yoga sessions provided by my employer, sleeping well, being able to go on walks during the day (so, staying physically active), eating well, and taking care of myself. I point out these facts, because they provided me with the foundation to be able to be creative and attack the problem from a solid base of wellbeing, which was essential to what I was trying to do.

Pacing felt even more important during this time. The students needed the perfect amount of work assigned at the right time to not be overwhelmed.

I think that with so much going on, the limits that the students had were very different to pre-pandemic times.

The pandemic teaching and learning experience underscores that student engagement, learning and well-being (AND teacher engagement, learning and well-being) go hand in hand. Lose one piece and the whole house of cards comes tumbling down.

One thing we can do is lead by example, demonstrating good wellbeing practices, sharing appropriate experiences with our students as a role model. Examples: no reading and answering emails after a certain hour in the day, or over weekends, having deadlines that are more reasonable than 11:59 PM. Managing expectations and helping students learn the value of planning and time management.

Theme 3: Putting Students at the Centre

Many of the comments from teachers focused on putting student needs at the centre of their instructional decisions to ensure all students felt affirmed and supported. This included considering the individual needs of students, paying attention to waning participation and work habits as a sign of potential struggle, focusing more attention on social-emotional learning (SEL) as part of their everyday teaching practices, and making sure to build in time for breaks.

A notable sub-theme related to putting students at the centre was the number of references from teachers about the need to "adjust expectations" around things like the volume of content that could be covered, the number and frequency of assignments, and the pacing of concepts being covered. Examples of these responses include, "I have lowered my expectations of students. They are no longer capable of performing at the pre-pandemic level and I don't expect that to recover anytime soon"; "lowering expectations for myself. I'm working on seeing this as being compassionate"; "The Course of Study had to be modified and only the most important concepts were prioritized to support the next year's learning"; "less is more. We are covering less and doing less assessment and I believe this has actually improved my teaching and the student learning"; and "I am trying to be kind to myself and to my students as we all navigate the uncertainty—try to do less but do it as well as we can given the challenging circumstances."

Theme 4: The Role of Technology

Many respondents commented that the pivot to online learning led to technology being seen as a necessity for classroom teaching. For some, who perhaps had not integrated technology very much prior to the pandemic, there were surprise benefits (e.g., ability to create a paperless classroom, making use of digital learning resources, ease of inviting guest speakers into the classroom, and finding alternative ways to engage students).

Some teachers also commented that having had prior experience with integrating technology before the pandemic helped make the transition to online teaching a little easier, since it was not entirely new to them. Likewise, those with less experience with technology commented that they struggled with the pivot to online learning, sharing, “I didn’t have a lot of skills going in but I had some and I can’t imagine how hard this would have been if I had never used technology in the classroom before (e.g., at previous schools); “I felt very comfortable using and learning new online technologies so I think that was a great benefit to me and my students in the shift to hybrid/online learning”; “I have had the advantage of a strong working knowledge on online technologies that have helped me during this time”; and, “My previous experience definitely made it easier to pivot to online learning.” Similarly, participants shared:

The fact that I used very little technology prior to the pandemic has made it much more challenging for me to pivot. I feel like I don’t have the skills to really be effectively delivering courses online and I am not sure how to really catch up. I feel very behind and somewhat overwhelmed by the online options because I don’t understand how to apply them to my own work.

In the context of a pandemic, my knowledge of online technologies was instrumental to allow me to make the best (in my opinion) of a very bad situation. I am thankful for that knowledge, and I am hoping to learn more so I can use them better moving forward.

I’m not a sophisticated user of online technology, to say the least. But, the biggest advantage we had at the beginning of lockdown was that we used Google Classroom already. We knew how to put all our material into one place and that was a great first step.

There were also comments that “less is sometimes more” when it comes to the number of digital applications being used:

I am not going berserk with a million new apps, just ones that fill gaps or can be used during non-pandemic times... there’s also a lot of poor quality stuff out there or things that duplicate each other. I’m being selective and usually using things to their full advantage, not just one off for one lesson.

Other teachers echoed this comment, stating, “I’ve stuck to what I know and not tried to learn too many other things, because that’s one more thing adding to the chaos of teaching in this time” and that “the G-Suite of Apps can pretty much support the most essential needs.”

Theme 5: Technological Skepticism

Despite a general acknowledgement that technology became essential to supporting continuity of learning for students during COVID, there were a number of teachers who mentioned that they feel skeptical about technology’s role in the classroom. This was most obvious in the number of comments from teachers about the negative experiences of having to navigate hybrid learning, with comments such as, “Hybrid teaching is very difficult as it is like trying to be in multiple places at once”; hybrid is not easy. It was “easier” when at least half the class was online. When it fell below one fourth, attention shifts naturally”; and “hybrid teaching as practiced by me in my subject area is a disaster. Period. I HATE it.” Other teachers offered more details:

Another big challenge—hybrid learning. I can easily connect to students when everyone is in the room or everyone is home but I can’t give equal attention/shape activities that equally engage students at home and students in the classroom at the same time.

The hybrid teaching method is really challenging for a variety of reasons: hard to engage students learning from home, hard to give attention to students at home as well as students at school at the same time, hard to plan group activities/presentations/performances when you never know who is going to be at school when, hard to actively teach while wearing a mask all day, hard to gauge student interest and emotion when students have

masks on, hard to deal with internet connectivity issues, hard to keep students socially distanced and safe at all times.

The hybrid model is very difficult to deliver. It is mentally taxing as you are “reading the room” in three different spheres—physical, virtual and then virtual chat while working through a lesson. At some point, you have to turn off the “reading” for at least one but more often two of these spheres. You are intentionally cutting off your connection with a particular student. This was/is a heartbreaking experience for me as I see this as such a crucial part of being a strong educator.

For some teachers, in-person learning appears to remain “the gold standard,” and the pandemic has led to “an even stronger commitment to in person learning as the best approach for a wider range of learners.” Teachers agreed, stating, “Teaching online is less fun/effective etc. than in-person teaching”; teaching icons on a screen will never be the same to teaching real people, together in a learning space”; “online/hybrid has always been a bandage that I’m looking forward to getting rid of. There is nothing that has been better than the in-person experience”; “Would choose in-person teaching/learning over and over again”; “positive healthy relationships between teachers and students are built in person. At least, they are by this teacher. Online and hybrid is a weak stop-gap measure for a desperate time...” One participant expressed that “[o]ne thing my students really miss is physical lessons. I try to bring these things in as much as possible when we are together. Returning to the good old big paper can be really helpful to students.”

Theme 6: Role of In-School Support

Many teachers commented that they were very appreciative of the number of supports provided to help navigate to fully online and hybrid teaching, though a number also admitted that they were not always able to take full advantage of the supports due to time constraints or just feeling too overwhelmed. A number also mentioned that they were grateful to have school support to prioritize student and teacher wellbeing, as it took the pressure off emphasizing curriculum coverage and the volume of student work that was being evaluated. However, for some there remained a bit of tension between maintaining the typical high academic standards of UTS during online/hybrid teaching and prioritizing wellbeing, with one teacher sharing, “UTS students rise to challenges all the time, and I felt I owed it to

them to provide the best education possible, in spite of the challenges of online learning.” Others stated:

The first year of [the] pandemic was more easy, flexible and understanding. There was a lot of scaling back to address teachers as humans with other hats to put on etc.

There was alignment. The second year, when we went back to school, there was a disconnect between revving back up to “normal” UTS, what admin was saying about health and well being of staff, and what was going on with COVID in society.

I felt that there was a disconnect between what was being said, about not being hard on ourselves and our personal wellness, with the amount of email and about new PD and assessment guidelines.

Limited support for equity and inclusion - our focus was and continues to be on tech/online for professional dev. This feels like an erasure of the significant social movements and cultural shifts in knowledge that have happened in 2020-21.

Analysis of Data from the Teacher Candidates

The analysis of close-ended and open-ended survey questions from the teacher candidates reflected many of the same themes identified among the in-service teachers. However, there were a number of notable distinctions between the two groups, which are outlined below.

- Teacher candidates tended to start off more comfortable with online technologies prior to the pandemic (0% said they were uncomfortable).
- Teacher candidates were less likely to say that they had considered leaving the teaching profession (only 1 of 16 said yes).
- Teacher candidates were more likely to rate “maintaining student engagement” as extremely challenging (37.5%).
- Teacher candidates were more likely to rate “ability to provide individual attention to students” as extremely challenging (25%).

- Teacher candidates were more likely to rate “equity, diversity, inclusion, anti-racism teaching/learning/conversations” as extremely challenging (25%).
- Teacher candidates were more likely to perceive that they were “not at all supported” in a number of areas (i.e., there were more areas where greater than 10% agreed with this statement for each support factor).

When asked about their experience as members of the MT-UTS cohort during remote learning (i.e., the select cohort that works with UTS throughout the year in the first year of their program), there were mixed feelings about the effectiveness of their professional learning. Some teacher candidates appreciated the opportunity to learn from the in-service teachers, particularly prior to starting their practicum block in schools. Conversely, others saw little value in their connection to the school: “I feel as if the UTS connection has not significantly impacted my learning as part of my teacher education; “As part of the UTS cohort, the connections and showcase of available resources have been insightful. For example, recognizing the available technology we have as educators allowed me to apply those different technologies to a classroom first-hand”; “I’ve just learned about some new technologies to engage students”; “I found myself [using] a lot of the UTS provided resources to get my thinking going for lesson plans/hybrid delivery”; “I’ve realized how the resources and services used by UTS in response to the pandemic are so deeply unaccessible in urban, public schools”; “I found UTS has different online teaching strategies and technologies to attract students’ attention”; “I know UTS has so many great teachers that I can learn from, but I’m not sure I’ve gotten a ton out of the presentations yet”; and “I’m not finding the UTS experience very rewarding at the moment. I thought this experience would involve more opportunities to be in classrooms...” Others shared more details, stating:

In my UTS observations, the teachers were so great at greeting all their students when they walked in the class, knowing everyone’s names, and they did include some wellbeing activities (I believe they did a meditation from the Calm app?). On my practicum, I started greeting everyone when they walked in the door, as I noticed my AT did not do that, and I think I really started to improve the classroom culture by doing that.

The fall UTS classroom observation was especially helpful because it gave me a sneak peek of how teachers are running their hybrid classes before I actually went into my practicum.

The fact that the teacher candidates were required to connect with UTS entirely through remote learning likely impacted their perceptions of the value of the site-based laboratory experience to some extent, as they were not really able to be physically present in the school throughout the day. Their interactions with the school were mainly limited to online workshops with teachers and brief online observations in classrooms.

Analysis and Discussion in the Laboratory School Context

While we are beginning to see some evidence of the pandemic waning in Ontario, there is also reason to be concerned that future waves are possible and that preparing for emergency responsiveness due to local and/or global impacts is prudent. Continuity of learning strategies may also be required for a number of other reasons, such as student absenteeism due to injury, temporary illness, mental and/or physical needs, emergency family care, travel restrictions, housing insecurity, financial need, and so forth. There are also students for whom online or hybrid learning may be a preferred mode of instructional delivery.

This study suggests that there are teachers who may consider in-person learning to be the default gold standard for educational delivery. The past two and a half years of emergency remote learning may have further entrenched some teachers’ commitment to this stance. Yet currently there is no conclusive, highly corroborated research evidence to support this view. If anything, the existing literature regarding any debate about in-person, versus online, versus hybrid delivery supports the argument that teachers who receive effective training to adopt highly effective pedagogies within *any particular mode* of educational delivery tends to support better outcomes for students.

Until now, much of teacher education has prioritized—almost exclusively—in-person teaching methods. Yet, the results of this and other studies suggest that educators who have more exposure to integrating digital tools into the classroom before the situation *demand*s it will have an easier time adjusting to online and hybrid learning when the situation *calls* for it. It could be argued that in-service and initial teacher education training that fails to take steps to address the need to prepare teachers to learn effective online and hybrid pedagogies that support and affirm all learners are leaving students vulnerable.

The results of this study also support the idea that professional learning offered to teachers ought to be varied to account for different types of needs and levels of prior experience with technology, allow for just-in-time support, involve opportunities to collaborate with colleagues around

school-specific needs, include technical support, and prioritize learning a smaller number of applications that can serve multiple instructional purposes.

Lastly, this research also highlighted the varied impacts of remote learning for students that will need to continue to be addressed in the years to come. These not only include catching up on content that may have been missed, but also supporting social-emotional learning and developing skills needed to be able to work effectively online. In particular, for UTS the move to online/hybrid learning during COVID-19 revealed a need for greater focus on socially responsible digital citizenship. For the purposes of the work currently happening at UTS, *socially responsible digital citizenship* (SRDC) is the understanding and practicing of continuously developing norms for safe, healthy, responsible, respectful, inclusive, ethical, and empowered use of digital technology. This ongoing effort at the school builds on previous research in the area of digital citizenship (ISTE, 2016; Ribble, n.d.) by linking it directly to the school's strategic priorities. SRDC at UTS includes:

- staying safe online including protecting their own privacy,
- making positive contributions to society through social media and other online platforms,
- making good decisions about what to post and share online (digital footprint), and
- promoting anti-racism, equity, diversity, and inclusion through social media and other platforms

Conclusions and Recommendations

Further research is needed to understand the impacts of the COVID-19 pandemic learning experience for students and their families, particularly in laboratory school contexts. Due to the smaller scale of this study, it is important to corroborate any generalizable conclusions that may be drawn with outcomes from other schools.

Lastly, as Ontario secondary schools continue to await further direction from the province with respect to their pre-COVID-19 announcements related to implementing mandatory online learning, this research also provides a beginning look into the supports that will be needed to navigate longer-term transitions effectively. If the research on ERT has pointed to anything, it has certainly highlighted the gaps in terms of preparedness for full-scale online learning and the need for intentional planning that includes the voices of all stakeholders and ensures effective learning for all students.

Key take-aways:

1. Areas of “extreme” challenge experienced by in-service teachers during remote teaching included “online/hybrid teaching,” “maintaining a sense of community with colleagues,” and “maintaining a sense of personal wellness.” While teacher candidates also mentioned these as areas of “extreme” challenge, other areas also included “maintaining student engagement,” “ability to provide individual attention to students,” and “equity, diversity, inclusion, anti-racism teaching/learning/conversations.”
2. Teachers at UTS reported that “technological challenges” were the area where they felt most supported (this contradicts many reports in the literature that identify technical issues as a significant challenge in need of addressing). Areas where they felt least supported included “maintaining a sense of community with students and colleagues” and “maintaining a sense of personal wellness.” Teacher candidates were more likely to report feeling unsupported across all factors.
3. It is important to develop a common understanding of the meaning of the terms “online learning” and “hybrid learning” to meaningfully interpret the range of modes of delivery that encompass remote teaching, their impacts on the experiences for teachers and students, and to inform future decision-making.
4. Educators who have exposure to integrating digital tools into the classroom before the situation *demands* it will likely have an easier time adjusting to online and hybrid learning when the situation *calls* for it.
5. Efforts to respond to long-term impacts of remote learning for students will need to include catching up on content, but also supporting social-emotional learning and developing skills needed to be able to work effectively online (i.e., socially responsible digital citizenship).

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Personal and Professional Perspectives: An Exploration of the Shared Experiences of Teachers and Families During Pandemic Instruction

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“Breathe, you will survive. You can do anything and so can your kids. Grow together daily.”
(Participant quote)

School Context

Grace B. Luhrs University Elementary School (GBLUES) is a public laboratory school on the campus of Shippensburg University in Shippensburg, Pennsylvania. Shippensburg University and Shippensburg Area School District partner to operate this school. GBLUES serves approximately 130 students in grades kindergarten through fifth grade. Through this partnership, GBLUES prepares future teachers and other professionals by modeling current educational practices and the Four Cs of learning: critical thinking, collaboration, communication, and creativity. The learning community focuses on student-centered, engaging instruction while adhering to the Pennsylvania state academic standards. Shippensburg Area School District students have the opportunity to attend the school allowing for the demographics of the school to be representative of public elementary schools within the community. Families acknowledge through a Memorandum of Understanding that students will work with, and be observed by, Shippensburg University teacher education majors and professors.

GBLUES is guided by five principles: preparation of future teachers, research and innovation, curriculum development, professional development, and educational experimentation. The staff and faculty at GBLUES collaborate with the Teacher Education Department at Shippensburg University to provide authentic opportunities for observation and practical teaching experiences. Applying these principles and continuing collaboration became even more challenging in the 2019-2020 school year. It will be a day that will never be forgotten—March 13, 2020. GBLUES students and staff received word from the Shippensburg Area School District that their schools were closing for a week. With this news came shock and immediate action. Teachers had to gather as many materials, books, and resources as possible in a short amount of time to send home with students. They also had to take instructional materials

and family contact lists home with them so that they could plan lessons for the students and stay in communication with their GBLUES families.

One week later, the announcement that the school would be closed longer than originally planned posed additional challenges. Teachers diligently worked to create new schedules and virtual classrooms. The district planned for Chromebook distribution so that all students received the needed tools and devices for virtual learning. Leaders in the district partnered with internet companies to obtain hot spots so all families had the ability to get online. Teachers attended training on how to set up virtual classrooms and how to navigate Google Classroom.

Soon after the implementation of virtual learning, the whole country shut down and students learned at home for the remainder of the year. During this time, schools dealt with many additional challenges. Multiple questions had to be answered: How will students get the materials they need when no one was able to enter the school? How will the schools communicate with families in a new way? How will all students get access to the internet and devices? How can the schools set up digital classrooms in a short period of time? How do schools and families stay connected even though they are apart?

Since GBLUES is a public school, they worked closely with Shippensburg University and the Shippensburg Area School District to support their school community during the pandemic. Surveys were sent out to school families to assess their technology and instructional needs. Chromebooks and instructional materials were distributed to families during curbside pick-ups at GBLUES. GBLUES teachers and staff communicated immediately with students and families to update them on our virtual learning procedures and expectations. They set up Google Classrooms, Zoom Rooms, and Seesaw learning platforms. At various times during the day and evening, GBLUES teachers had “office hours” to check in with students and give them support as needed. They were

all committed to being available for families' questions and concerns.

The GBLUES Director and classroom teachers made a special delivery to each student's home during the beginning of the pandemic. The delivery consisted of a pizza box stuffed with virtual learning materials: earbuds, pencils, markers, paints and brushes, crayons, rulers, paper, scissors, notebooks, and classroom schedules. Even though the students were a little disappointed that there was no pepperoni pizza in the boxes, they were grateful for the supplies and were thrilled that they saw familiar faces from school. The school contacted families to let them know that they were there to support them during this time of uncertainty. Since the school prides itself on its caring and compassionate family-like community, they found ways to keep families and school staff together even though they were apart.

Teachers conducted virtual morning meetings every day to check in with their students, giving them time to express their feelings about what was happening at their homes, in their virtual classrooms, and in the world. This helped them keep a pulse on our students' social-emotional health. Some teachers also facilitated virtual play and chat times with students in their classrooms. During these times, students could just come into the Zoom Room to talk with their friends.

To share similar experiences even from different homes, the GBLUES director read a chapter from a book each day and posted the recordings on YouTube and Facebook for students to watch when it was convenient for their families. Once a week, the Director had a live bedtime story hour on Zoom for the GBLUES students. The director and school nurse called families on a regular basis just to touch base and see how their families were doing. Positive notes were sent home to every student each month to keep them motivated and to let them know how much we cared about them. Students each received a letter from Leo (the director's dog) during this time. All students were encouraged to write to Leo with any concern, question, or idea they had. Leo received over 40 letters during the pandemic, and he replied to them all.

Despite these efforts, the circumstances of the pandemic brought several challenges for teachers and families. Families experienced Wi-Fi connectivity issues. Many families had multiple people in their house online at the same time trying to work. Families with different aged children encountered multiple online learning platforms for each of their children. Families worried that their children had too much screen time and some reported that their children finished their work quickly, got bored, and were difficult to manage at home. A lack of access to childcare as day care centers experienced closures, and some reached their capacity and could not accept new families to their facilities, was an additional challenge

many families faced. Some parents became frustrated with the lack of attention the day care centers paid to logging their school-age children on to Zoom sessions with their teachers.

Teachers were expected to learn new technology quickly with little or no training and had to change their mode of instruction with no advanced notice. Transitioning from typical in-person instructional methods to a virtual setting was a time-consuming task, creating a challenge for educators and students. Getting students to complete required work was another challenge for several reasons. It was difficult for some students to focus in their home environment. Educators had to quickly learn how to use digital learning platforms and discover new strategies to keep students engaged while teaching on Zoom.

Families and teachers struggled with being isolated from extended family, colleagues, and friends. The uncertainty of the future, the loss of normalcy, and the fear of getting sick affected everyone. Many people felt overwhelmed, frustrated, and scared. Taking care of family members while trying to work at home was a challenging balancing act.

The pandemic was a demanding and eye-opening experience for all. Teaching virtually has solidified the value of creating strong relationships with students and families. Having honest conversations with families was a valuable approach to increasing teachers' understanding of what instructional methods were most effective for students. Families, teachers, and students developed an even greater appreciation for one another. The relationships they built before the pandemic were crucial in helping each other through this difficult time.

Literature Review

COVID-19 was declared a pandemic in March of 2020 (Viner, 2020). In that same month, schools around the world began to close or modify instructional delivery to allow for students to stay home, aligning with recommendations from a variety of health organizations (Timmons et al., 2021, Wang et al., 2020; Wilder-Smith & Freedmann, 2020). School closures reached their highest levels in April of 2020 (World Food Program, 2022), but the 2020-2021 school year brought new innovations and methods of instruction as many schools attempted some version of in-person instruction while aligning with updated guidance from health organizations including masking, socially distancing, and increased sanitation efforts (Wang et al., 2020). GBLUES experienced a shutdown timeline similar to that of other schools in northeastern United States.

The need to socially distance forced many schools into a hybrid model of instruction where student populations were divided in half with different groups attending school on alternating days. As COVID-19 cases fluctuated, schools would

move to fully virtual instruction if school or community spread numbers increased. These continuing shifts created many challenges for teachers, families, and students (Romer, 2020; Timmons et al., 2021; Yamamura & Tsustui, 2021). Teachers reported a lack of pedagogical competence related to managing distance education (Rapanta et al., 2020). Additionally, access to the internet and students' knowledge of how to use online resources and learning tools was of particular concern for elementary students (Fedynich, 2014; Wedenoja, 2020). Lack of skills such as typing, sharing files, and logging in to computers created additional barriers for students (Kim, 2020).

In elementary grades, hybrid and virtual instruction created unique challenges specific to academic content, but also created challenges related to students' social skill development (Blair et al., 2018, Timmons et al., 2021). Children might be psychologically affected by the pandemic more than other age groups because they may struggle to make sense of the experiences and information while simultaneously lacking skills to convey their questions and concerns (Akat & Karatas, 2020). Some of the mitigation efforts might increase rates of anxiety in both children and adults (Ozer, 2020). The disruption to student education had the potential to impact students' long-term achievement and development. With 90% of schools around the world implementing some type of remote learning, educators recognized the potential impact and employed a variety of creative and innovative techniques to help mitigate these negative outcomes (Reuge et al., 2021).

This innovation extended to new ways to communicate and engage with families in their child's education. Due to the nature of a virtual or hybrid school model, families entered situations where they assumed more responsibility for their child's education and care than during a typical school year. For many families, they were also balancing their own work responsibilities with the added education and care responsibilities (Kuhfeld et al., 2020). While facing the challenge of balancing their child's education and their own work responsibilities, families also experienced a wide range of other concerns resulting from the pandemic. Many families faced job loss, health concerns, social isolation, and economic and social issues during the 2020-2021 school year compounding stress (Education Trust Poll, 2020).

Teachers were concerned with new pedagogical practices, enlisting family support in new instructional modalities, and maintaining engaging classroom practices in situations where the classroom location was constantly changing; they also were living through a pandemic. Much like families experienced additional stressors surrounding illness, economic and social upheaval, and increased familial responsibilities, teachers also contended with these factors during the 2020-2021 school year. As some teachers returned to the classroom, they faced

decisions surrounding their own health risks and that of the individuals they lived with (Stanistreet et al., 2021).

The impact of the COVID-19 pandemic was felt by teachers, families, and students. Schools responded in different ways. Some of the lessons and experiences can help inform educational practices as consideration is given for offering more virtual days when school needs to close. Additionally, the experiences of teachers and families during the 2020-2021 school year can help us understand the connection between school policy, family, and teacher relationships and the impact of those factors on students' ability to persevere when faced with challenges.

Methodology

The purpose of this transcendental phenomenological study is to present the pandemic instruction experiences of teachers and families during the 2020-2021 school year without bias (Creswell & Poth, 2018; Moustakas, 1994). This study sought to present the challenges, emotional responses, effective resources and strategies, and on-going shifts in perspectives related to education as experienced by teachers and families of a laboratory school.

Design

Qualitative research allowed for the voices of teachers and families to be heard and represented as authentic reflections of their shared experiences. A transcendental phenomenology research design was used to explore and explicate the lived experiences of the participants without requiring interpretation by the researchers. The researchers share some experiences with the participants through education administration, teaching in higher education, and familial connections with children learning through the pandemic in a different school context. These experiences, while similar, do not align with the participants' experiences, limiting the ability of data interpretation by the researchers.

The study sought to answer one central research question and one research subquestion surrounding the experiences of participants during pandemic instruction. The phenomenological design of the study was supported by the central research question, allowing participant responses to reveal the essence of the phenomenon (Creswell & Poth, 2018).

Central Research Question

How do teachers and families describe their teaching and learning experiences during the 2020-2021 school year while pandemic protocols were in place?

Subquestion

SQ1. How do teachers and families perceive that school climate and response to pandemic protocols impacted their ability to persevere throughout the 2020-2021 school year?

The central question guiding the study sought to determine the experiences which encouraged families and teachers to persevere through pandemic instruction during the 2020-2021 school year. The research subquestion focused on the participants' perception of instructional strategies and emotional responses. Data was collected through a family survey, teacher survey, and focus groups, including both teachers and families. Open coding was used to determine textual meanings, and emerging themes are presented as the essence of the participants' pandemic learning experience.

Data Collection

Institutional Review Board approval was secured by the researchers. Participants of the study were identified using a convenience purposive sample designed to provide variance in work history, educational attainment, socio-economic status, marital status, and racial/ethnic self-identification (Creswell & Poth, 2018). All faculty, staff, and family members at the selected laboratory school were extended invitations to participate in the study through emails from the school director. Additional verbal invitations were extended during informal conversations, and reminders regarding the opportunity to participate were provided in school newsletters and email blasts.

Survey questions were designed by the researchers and reviewed by experts in the field, allowing for adjustments to eliminate bias and ensure relevancy of questions (Creswell & Poth, 2018). Initial participation was offered through a virtual survey. The virtual survey was designed to allow for maximum participation because it could be completed at any time to eliminate scheduling concerns. Eight teachers and staff members representing various grades and roles within the school participated in the teacher survey, and 50 families representing each grade level in the school participated in the family survey. All faculty and family members of the laboratory school have access to the internet, eliminating technology-related barriers. Semi-structured questions were utilized within the survey and the focus group to allow for open-ended responses (Creswell & Poth, 2018). Those who responded to the survey were asked to indicate their willingness to participate in a follow-up focus group.

All participants were offered multiple times for focus group participation to accommodate the varying scheduling

needs and allow for maximum participation. Two focus groups were held virtually. The focus groups were recorded, and transcription was completed by the researchers. Questions for the focus groups were designed to clarify and delve deeper into participant responses to the survey questions. Triangulation and credibility of the data were achieved by including both teachers and families in each of the focus groups, supporting validity of participant responses and allowing for comparison of responses to previous responses.

Data Analysis

Moustakas' (1994) steps for transcendental phenomenological research data analysis were utilized. The previous experiences of the researchers were set aside, and open coding was used to identify significant statements from the survey and focus group transcripts. Significant statements were classified into themes, and themes were developed into textural and structural descriptions of the phenomenon. The developed themes allowed for presentation of the essence of the pandemic instruction phenomenon (Moustakas, 1994).

Findings

Teachers and families reported feeling overwhelmed, frustrated, and lonely during the 2020-2021 school year. To accommodate the demands of hybrid instruction, both teachers and families realigned their priorities to varying degrees based on individual circumstances. External supports, including community resources and learning pods, were valued resources. The themes of connection, flexibility, and project-based learning were experiences and instructional approaches that helped to mitigate the challenges and negative emotions experienced by families and teachers during the 2020-2021 school year, enabling them to persevere through the year. These themes were best represented in the use of hands-on, collaborative learning projects rather than the use of technology tools.

The following five themes emerged from data taken from participant responses. The quotations presented below are verbatim; however, filler words and stutters have been removed.

Theme One: Connection

Connection was the most common theme presented by the participants. Family participants reflected on the efforts of the school to build connections and shared that this was one of the primary factors influencing their ability to support their children. Families also relied on the support of family

and friends with 46% of participants reporting that family friends were a primary source of support. The families at the laboratory school were also unique because several families partnered together to form learning pods which enabled them to maintain relationships and share responsibilities during virtual learning.

Families reported that they received support and encouragement from other family members and friends. These families found the formation of learning pods beneficial. Learning pods were created consisting of four to five families in each pod. Each family took a day of the week to host all the students in their pod at their home for virtual learning. This shared responsibility and coordination of activities benefitted all families in the pod. The pod members communicated daily, and the students had school-like experiences on a smaller scale. Learning pods provided students and family members with social and emotional support:

The creation of the pod was family initiated as described by a participant:

[W]e were one of the families that had a learning pod and luckily it was just sort of a different friend of ours who said, “hey, we should do this.” And we said, “okay,” and so...what happened is there were three families that we decided to isolate with each other.

When reflecting on the experience surrounding the learning pod, another participant shared,

I was one of the parents that was extremely overwhelmed. But again, going back to the pod just saved us I think so I think that if I had to have all of my kids all the time, and that was it, they would probably share that overwhelmedness feeling but because they were with each other... I don't feel like they were overwhelmed especially later on when we really got into, again, the structure that somebody else had talked about. I think that was just really so helpful. And so, I think that I was more overwhelmed than they were they had that, additional support.

Another respondent found participation in the pod created a sense of normalcy and allowed her child to maintain relationships:

We also had a lot of interaction with friends during the time we just created similarly a small pod, but that support was just good to have

them be able to be social with people that they already knew. And like I said it was some sense of normalcy. If every week they were with the same people and they, you know, could still build kind of relationships from day to day with people.

Teachers also found that the benefits of building connections with and between families extended beyond academic support and provided students with social and emotional support during pandemic instruction:

I did notice the families that I had, as virtual students, using family and friends as support for me, I noticed it mostly for emotional support, and social support. I know that some of our families that we had in a virtual setting sort of teamed up and made their own little pod where the kids would then be on the same screen together. So, they would go back and forth from houses, a couple kids did that. And I think that was helpful for the kids. Just for face to face interaction.

To make the most of these informal learning pods, teachers began coordinating with families. One teacher shared,

There was so much coordination of events between them and myself. I felt like the teacher role was really blurred, everybody had my phone number they texted all the time which was great and it worked out, for them for that time...that required a lot of communication between the parents and I, which we really figured out pretty quickly and I was really proud of the relationships that we all built but I do think it just required some extra communication.

Theme Two: Realignment of Priorities

Many families reported realigning their priorities by shifting their focus or choosing to deprioritize activities or responsibilities to accomplish what needed to be completed. As participants shared their experiences surrounding this theme, many reported triaging their work and home responsibilities. For some families, drastic changes were made to support the needs of their student(s). For one participant

it got to a point where, I was even at home. It was very difficult to, I mean, there was childcare—I was there, but it was hard to get stuff done and I

actually ended up quitting my job so that I could focus on him being able to get done, what he needed to get done. Because I told myself I can't be doing this poorly at two things. Trying to get, keep him doing his work and getting his work done. And then I was having to stay up late to get my work done. So, I ended up, I was like, you know what, I'm just gonna focus on him.

Several families were able to maintain their jobs during this time but 36% of participants reported a drop in their productivity at work. Many participants reported they found a need to be kind to themselves and recognize their best had to be good enough. A participant shared,

We just kept with the mantra we are doing the best that we can and that was like at the end of the day. It was like, you know what, this is a pandemic and we're doing the best that we can and after a while we tried to get more of a routine and it still was tough, but just that we're doing the best that we can and that kind of got us through it.

Similarly, another family reported,

So, after a while, we just kind of let some things go like well, I know you're doing it. I know you learned that. You know if it gets in the right place, that's fine. If it's not, it's fine. So, we just learned to kind of let some things go. And I think we're fine. But, you know, that process of this is what it's gonna look like, it's not going to be perfect. Things might not get done was something that was part of that whole journey. I think that I had to accept that this is just what it's going to look like and it's going to have to be okay.

For some families, accessing community services became a way to balance conflicting priorities and they realigned financial priorities to access those community services:

I was so relieved that I could...take them to a place obviously it costs money and that was a huge struggle for us but I knew that I could not keep them at home and do a good job at both things.

Theme Three: Flexibility

As families realigned their priorities and adjusted to hybrid instruction, they found their ability to be flexible, and a flexible approach from their child's teacher enabled them to persevere more successfully. Many families and teachers reported that having some flexibility in their job allowed them to more effectively support their students. Flexibility also extended to accessing more content. Thirty-five percent of family participants reported they wished they had access to more educational materials to supplement their child's learning:

I felt like sometimes what they were given was limited or just not enough. So I did ask her teacher at a few points. You know, what's in your curriculum? What are you trying to cover right now? Because I want to be able to have those conversations with her or maybe I have, maybe I can find some videos to help supplement her learning or augment it in some way. Not that I was looking for more things to do because I had plenty to do, but I just felt like there were some gaps in my understanding about what it is they were supposed to be learning. And if I could have a broader picture of what that was, then I could better supplement.

One participant recognized their lack of knowledge surrounding education created barriers to their ability to support their child.

He's not a teacher. He's not extremely skilled with, you know, what the kids need to learn and how to help them through that and I think probably a lot of parents felt that way. Like, you know, I'm not sure how to do this. I don't know how to navigate this. A lot of our frustration honestly was just with the apparatus that we had to work through. So the kids might be doing the work but, what button do we click on to turn it in and where, so some of it was just like my kids doing this work, but I'm having my husband and I are spending all this time to try to figure out how to submit it.

Several families and teachers reported frustration with the format online instruction was delivered in. One family suggested trainings for families would have been helpful while a teacher expressed a desire for more autonomy in decision-making surrounding the content and delivery method. For

the families who experienced these challenges, flexibility was a crucial element to their success. Teachers who were willing to accept assignments at a later date reached out to families to ensure they knew which assignments were missing and allowed for alternative assignments that supported family and student success in meaningful ways.

Theme Four: Project Based Learning

While families experienced challenges with the format of virtual instruction, teachers used their ability to be flexible to offer unique learning opportunities in the form of project-based learning. This instructional methodology was so popular among both family and teacher participants that responses developed into a theme. One family shared,

[Teacher] did an excellent job really, of sending these packets home, which must have been so much work. Thank you for doing that. But these packets of you know, here's a project we're going to do here are all the millions of parts and pieces you need for it. Here are some printed handouts that you can work with because the more tactile it could be I think the more that the kids were actually learning instead of having to look at the screen all the time. So I really appreciated that and just the extraordinary lengths that you must have gone through to package all of that stuff up so that it was sort of easy and hands on for us. Once we got it at home that was really useful.

For families whose teacher did not provide this type of learning opportunity, families wished it had been offered. A family offered:

I also really managed to re fall in love with specials because I loved when there was something that the art class could use that they could okay good you guys get to go build something or you guys get to go paint something or you guys get to go do something besides just look at a screen and so but even with those things of looking at screens, I just felt like you know, they're done. This is not helping them at all. As far as, like, just the kinds I wish there was, like I said, more that sort of hands-on building, you know, experimenting—something that was more than just looking at a screen which we hope for our grown up kids as well.

Teachers who utilized a project-based learning approach saw value in it. One teacher shared,

I can't imagine having to have the kids just on the screen all day every day. You know so that's why I did really go out of my way to drop off every Sunday and have them you know, we cooked a lot we made a lot of slime we you know we really tried to work hard to make hands on projects for the standards that we were reaching, you know, and that was possible for me because I didn't really mind driving around and dropping stuff on Sunday nights. But that's not possible for every teacher obviously. But I don't think that it would have been effective if I were online all year with just the kids sort of staring at the screen and maybe filling out a worksheet here or there. I thought that was my biggest takeaway, is that they needed to have things in their hands.

The connections between teachers and families allowed for this approach to be even more effective with one teacher stating,

But when I knew the kids were going to be together, especially I had two girls that were together quite a bit and when I knew they work together, because they were the only second graders I had at the time. Then I would give them a big project and drop supplies off for them. And then they could work on that like all afternoon together, and then check back in with me periodically. So, it was nice for me to know when that was going to happen so that we could coordinate activities.

Conclusion

There were many challenges facing schools during the 2020-2021 school year. The laboratory school met these challenges by aligning new instructional design with their Four Cs of learning. This focus on collaboration, critical thinking, creativity, and communication allowed for existing family and school partnerships to be leveraged in support of student, family, and teacher success during pandemic instruction. Many lessons were learned, but the foundational principles guiding the school allowed the school to meet the unprecedented challenges. Families found the response of the school and teachers to be a support. The following school-based strategies

were most helpful in supporting families' ability to persevere in support of their children:

- Increased communication from school administration and classroom teacher
- Flexibility in submission deadlines
- Provision of resources (e.g., beginning-of-the-year virtual learning boxes delivered to each family and weekly resources delivered to support projects)
- Connections with other families in the district/school

To increase their ability to support their children, families wished the school had offered

- access to more educational resources,
- increased opportunities for project-based learning, and
- increased information on use of learning management systems/technology including limiting the number of sites and login information required.

For teachers, maintaining a work-life balance was, and is, an important component of their ability to stay motivated and inspired to teach. Support from administration and colleagues enabled many teachers within the school to maintain some degree of this balance during the 2020-2021 school year.

A teacher summarized this well when she stated,

Although technology is a useful resource, it is not the essential element to reaching the needs of every student in a world of chaos, sickness, and cyber insecurity. Rather, tactile learning, along with student discourse, are the two imperative elements students need to stay actively engaged. My experience teaching virtually has solidified the value of creating strong relationships with both students and families.

Key take-aways:

1. Technology is a useful resource, but it is not the most essential element to reaching all students. Rather, hands-on learning and student collaboration are imperative elements students need to stay actively engaged in the learning process.
2. A work-life balance is very important. To stay motivated and inspired to teach, teachers need to practice self-care and know when it's time to stop working for the day.
3. Schools need to decide what platform they will use for instruction and confirm all families can log in and have all necessary passwords. Schools should not complicate instruction with multiple passwords and learning sites to ensure that procedures are streamlined and user friendly.

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Appendix 1

The following questions were asked on the teacher survey.

1. A) Please select any of the professional challenges you encountered during pandemic instruction. (Technology challenges, student/family engagement, work space challenges, accessing resources/teaching materials, none of the above)
B) What, if any, other professional challenges did you encounter during pandemic instruction?
2. A) What strategies/resources did you find most helpful in addressing the challenges you experienced? (Colleagues, materials or teacher sites like TPT, Pinterest, etc., student engagement platforms such as Google Classroom or Seesaw, district professional development)
B) What, if any, other strategies/resources did you find most helpful in addressing the challenges you experienced?
3. What resources, if any, do you wish you had access to during the 2020-2021 school year?
4. How has your experience during the 2020-2021 academic year shifted your teaching philosophy? If it has not, please briefly summarize your philosophy.
5. A) Please select any of the personal challenges you experienced while teaching in the 2020-2021 school year? (Health concerns for you or an immediate family member, financial concerns, meeting needs of immediate family members)
B) What, if any, other personal challenges did you experience while teaching in the 2020-2021 school year?
6. What was the most prominent emotion you experienced during pandemic instruction?
7. How did you see that emotional response impact your classroom environment?
8. If you had to provide advice to a novice teacher entering pandemic instruction, what would you tell them?

The following questions were asked on the family survey.

1. A) Please select any challenges you experienced with your child/children's education during the 2020-2021 school year. (Technology challenges, completing required work, work space challenges, accessing resources/teaching materials, none of the above)
B) What, if any, other challenges did you experience with your child/children's education during the 2020-2021 school year?
2. A) What strategies/resources did you find most helpful in addressing the challenges you experienced? (Other families in the district, family/friends, district based resources, community resources such as tutoring, school aged child care, etc.)
B) What, if any, other strategies/resources did you find most helpful in addressing the challenges you experienced?
3. Please check any resources you wish you had access to during the 2020-2021 school year (Improved technology resources, child care, access to more educational resources, other)
4. How did your experience during the 2020-2021 academic year shift your relationship with your child's school/teachers?
5. A) Please select any of the personal challenges you experienced while teaching in the 2020-2021 school year? (Health concerns for you or an immediate family member, financial concerns, meeting needs of immediate family members)
B) What, if any, other personal challenges did you experience while teaching in the 2020-2021 school year?
6. What was the most prominent emotion you experienced during the 2020-2021 school year?
7. A) How did you see that emotional response impact your home/work life? (Please check all the apply) (Increased quality of relationships with immediate family members, decreased quality of relationships with immediate family members, increased productivity at work, decreased productivity at work, no change)
B) Did your emotional response impact your home and/or work life in other ways? If so, please explain.
8. If you had to provide advice to a new family entering pandemic instruction, what would you tell them?

Appendix 2

The following questions were asked in the focus groups.

1. Several families reported they found the formation of learning pods beneficial. If you participated in a learning pod initiated by families within the school, can you provide more details on the structure and benefits of this model?
2. Participants reported family and friends as their primary resource to address challenges they encountered during the 2020-2021 school year. What supports did family and friends provide to support your child's education?
3. Many participants reported a desire to have access to more educational resources. If you thought more resources would be beneficial, could you provide more detail surrounding the type of resources you wish you had access to?
4. Lack of access to childcare was mentioned in response to several questions. Was the lack of access due to child care closures or a lack of resources within the community that continue to present challenges?
5. Participants overwhelmingly reported feeling overwhelmed during the 2020-2021 school year. Considering your child's perspective, do you believe your child's emotions were different than, or similar to yours? What did you find helpful to manage this feeling in yourself and, if applicable, your child?

“We Won the COVID Lottery!”: Pandemic Supported Environmental Learning in Early Years Settings

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“For me this teaching with a small group in that outdoor space has been an incredible gift and yes, the gratitude just flowed completely naturally, and I just want to keep fostering a way that we can continue to have that sense of kids having that extended time—kids and teachers, having extended time in that natural space and connection.” (Early Years Educator, June 2021)

This article reports on the first year of a three-year study (2020-2023) exploring ways to support early years educators at 10 urban sites as they enhanced environmental inquiry in their preschool programs (children aged 2.5-4 years), particularly from Indigenous perspectives. Although these centres had limited access to green space, we found that when adults focused on Indigenous perspectives and practices, such as expressing gratitude for the gifts of the land, and affirmed and supported children’s natural curiosity and interest in the natural world, children (and adults!) became more attuned to, and engaged with, the world around them. This, in turn, led to deepened relationships and a desire to care for and give back to our non-human relatives.

This study began shortly after the COVID-19 pandemic was declared in March 2020. It would be impossible to untangle the influences of the pandemic from the influences of our research study interventions; however, we believe that the pandemic provided a gift that enhanced the environmental learning and teaching that we have witnessed. As one of the educators in the study put it:

In fact, this was for me the biggest insight with COVID, like this was the biggest inspiration for me about COVID. This is a chance for us to really explore outdoor education in a new way and I feel really committed to that.

School Context

This study was situated in three of the 12 sites at the Laboratory School at George Brown College, Toronto, Canada as well as seven other early learning centres in Toronto.

The Laboratory School sites at George Brown College are an integral part of the School of Early Childhood, providing programs for the exemplary care and learning of young

children (approximately 1,000), professional education opportunities for students completing an early childhood education diploma or degree, and research, both in the lab school sites and in community learning centres. The first site opened in 1974 to care for preschool children under the name “The Learning Centre.” In response to the need for trained early childhood educators over the years, the school expanded to provide additional programs for infants through to preschool (full day) and for kindergarten to Grade 5 (before and after school) at sites on the college campus, in hospitals, public schools, and downtown office buildings. The school’s philosophy is based on the four foundations of Ontario’s pedagogy for the early years: belonging, well-being, engagement, and expression. Children are viewed as competent, capable of complex thinking, curious, and rich in potential. The program uses an emergent curriculum approach in which environments and experiences are designed to engage children in active, creative, and meaningful exploration, play, and inquiry.

In addition to three of the George Brown College Laboratory School sites, the participants in the study came from the laboratory school at the Jackman Institute of Child Study, and six other community non-for-profit childcare centres in Toronto, Ontario, Canada. All 10 sites are based on similar philosophies and pedagogies.

The families and staff at the centres in the study reflected the demographics of the city of Toronto. That is, they were a mixture of people from a large range of countries, cultures, and religions who spoke a range of languages. Many of the families in the centres were low-income. All but one of the sites offered subsidized spots for low-income families. In eight out of 10 of the sites, between 75% and 100% of the families were on partial or full subsidy, another site had 20% of families on subsidy, and the final site did not offer subsidized spots.

Research Problem and Question

While the COVID-19 pandemic created many challenges for the early learning centres in the study, the challenges that will be explored in this paper are related to environmental or nature-based teaching and learning, particularly from Indigenous perspectives. This study was planned before the pandemic began, and although studying the pandemic was not the original purpose of the study, it has impacted everything from how long the children spent outdoors, the kinds of materials they could use, how everyone involved (children, educators, researchers, parents) interacted with one another, and how we delivered professional learning as part of the study.

Our research questions were:

- What are early years educators' knowledge, attitudes, and practices with respect to environmental inquiry, particularly from Indigenous perspectives?
- What perspectives, resources, and practices support children's development of connections with the natural world?

Literature Review

There is a growing body of research on the health, developmental, and learning benefits for children of active outdoor play (e.g., Brussoni et. al, 2015; CPS, 2012; WHO, 2020), but also of the barriers to these benefits that the COVID-19 pandemic presented for children when their access to outdoor play was restricted due to the closure of schools and childcare centres in the spring 2020 (e.g., Mayer, 2020; Oakley et. al, 2021).

There is another set of challenges and benefits at play with respect to outdoor play and learning. In Canada, and many other colonial countries, little attention has been paid to the history, culture, or worldviews of the First Peoples of the land on which children play and learn (University of Alberta, 2021). In 2015, the Truth and Reconciliation Commission of Canada (TRC) report made recommendations for the reconciliation of Indigenous and non-Indigenous peoples in Canada which includes reconciliation with the natural world. (TRC, 2015). The report calls on educational institutions at all levels to include a curriculum on Indigenous ways of knowing and being (TRC, 2015). Indigenous worldviews include developing relationships of gratitude and reciprocity with the land, which leads to a healthier world for all (Wall Kimmerer, 2013). These views have been largely missing from early childhood education programs in Canada with their focus on developmentalism (Callaghan & Leonhardi, 2018).

Educators can support children to work toward reconciliation, develop healthy relationships with the natural world, and overcome some of the challenges that COVID-19 presents to mental and physical health through land-based outdoor pedagogy informed by Indigenous perspectives. However, early years educators and early years pre-service students typically receive little training on how to support outdoor play and nature play. The knowledge, skills, and confidence required to meaningfully support children's outdoor and nature play require considerable time and support to develop (Nazir & Pedretti, 2016). Furthermore, Canadian educators are in the early stages of understanding how to meaningfully incorporate Indigenous history and perspectives into educational settings. Without opportunities to develop their professional capacity to support learning in this area, their young students may not experience the myriad benefits that this type of environmental inquiry affords.

Pacini-Ketchebaw et. al (2015) challenge assumptions made in traditional professional development, including the notions that it is linear and sequential, and that change occurs solely in isolated and pre-planned increments. Rather, they call for professional education that is flexible, responsive to educators' needs, and respects educators' professional decision making (Pacini-Ketchebaw et. al, 2015). The current study explores early years educators' learning and perspectives on environmental inquiry from Indigenous perspectives while engaged in a flexible and emergent professional learning process.

Methodology

This paper reports on the first year (2020-2021) of a three-year qualitative study in which we followed early years educators in 10 preschool classrooms in Toronto, Ontario as they incorporated environmental inquiry strategies, particularly from Indigenous perspectives, into their play-based programs. The preschool educators were given resources such as picture books by Indigenous authors, mud kitchens, wooden blocks, and nature identification sheets. In addition, over the course of the year we provided two workshops with Indigenous guest speakers. We planned to hold these workshops in person but needed to switch to a virtual platform for safety reasons.

Our intention was to have members of the research team visit sites bi-weekly throughout the school year, but due to COVID-related public health restrictions, researchers visited sites an average of five times each (49 visits in total), as participant observers. Because we did not have as many opportunities to engage with the participants in-person as we had planned, we developed a series of six e-newsletters with links to further resources and suggestions for activities they

might want to try.

Each of the 10 preschool classes had two educators who were registered early childhood educators or Ontario certified teachers. Twelve of the educators had between 10- and 34-years teaching experience, four had less than five years of teaching experience, and the remaining three educators had between five- and 10-years' experience. All of the educators were encouraged to use their professional judgement when deciding how and when to incorporate any of the resources and suggestions we provided. This design was chosen because we wanted to understand, from the participants' perspectives, what resources, supports, and processes were most helpful in developing their environmental inquiry programs.

The educators were interviewed individually at the beginning of the study in September 2020 about their experiences, knowledge, attitudes, and perspectives about outdoor play, nature-based learning, and Indigenous perspectives on environmental inquiry. They were interviewed again at the end of the school year in May or June 2021 to see if their knowledge and perspectives had changed and to learn about what they perceived to be the benefits and challenges of this approach to environmental inquiry. We did not ask specifically about the impact of COVID-19 in the interviews, but the open-ended nature of the questions encouraged the participants to discuss the challenges and benefits of implementing environmental inquiry, including those that arose due to the pandemic.

The research approach in this study was qualitative, as defined by Merriam (2009) and Punch (2009), although some quantitative rating scale questions were asked. It involved a small sample of teachers who were studied in depth; the interviews and observations were largely open-ended, and the themes emerged as the study progressed. The transcripts and observation data were transcribed, coded deductively using pre-set codes such as "use of natural materials" and "comfort with teaching outdoors" as well as inductively with emerging codes such as "educators' own relationship with nature." The data were read several times to identify themes related to the research questions. The emerging themes were continually modified through "constant comparison" (Glaser, 1992; Thomas, 2006) with the data. This qualitative approach to the study design and analysis allowed the research team to analyze emerging themes in individual case studies, as well as themes that occurred across participants in their various contexts.

All members of the research team other than Lori Budge, the Indigenous advisor, are Registered Early Childhood Educators. The first author is also an Ontario Certified teacher. Therefore, we were familiar with the context and curriculum in not-for-profit early learning centres in Ontario. The first two authors have previously researched outdoor play

in early learning settings, but not specifically from Indigenous perspectives.

This study took place during the COVID-19 pandemic, shortly after the early learning sites re-opened after the March 2020 general pandemic closures. Following public health guidance, once they returned the preschool classes spent much of their programming time outdoors and followed other precautions such as social distancing and increased sanitation. Although the pandemic undoubtedly created many challenges, it appears that this increased time outdoors, as well as the need to re-think pedagogy, enhanced the environmental learning and teaching we witnessed in the study.

Findings

Differing Levels of Knowledge

The educators in the study began the study with different levels of knowledge with respect to environmental learning and Indigenous perspectives. Some of the educators had little knowledge about learning from and with nature or about Indigenous perspectives on land-based learning. As one educator stated when asked at the end of the first year about what she had learned, "I didn't really know anything about Indigenous teachings and learning so I'm slowly learning."

Some of the younger educators who were new to their role reported having academic knowledge about the importance of outdoor play and nature play, but little practical experience. One expressed it this way:

Obviously, I have had a level of education around it from being taught about it and the course that we took at college, but it really wasn't until I've been in the field that I've really sort of started to immerse myself in it more. I've really started to understand and appreciate the importance of it.

A few educators reported that they had been familiar with using nature-based pedagogy in their programs, but because of being involved in the study, they were expanding their practice to include Indigenous perspectives on land-based learning. As one educator explained it, the study gave them the opportunity to learn that Indigenous worldviews on land-based learning can be incorporated into the world of outdoor play in early learning settings:

I love incorporating nature and I feel silly that I've been encouraging that for so long and not taking the opportunity, necessarily, to always incorporate Indigenous culture into that because they are

so cohesive at times. So, I think I'm expanding on that because now I'm working more towards bringing those two worlds together.

Regardless of their initial level of knowledge, the educators reported that they believed it was important to incorporate Indigenous perspectives into children's early learning experiences. At the beginning of the study in fall 2020, 70% of the educators reported that it was very important, and the remaining 30% thought that it was important to incorporate Indigenous perspectives into young children's early learning. The most common reason for the answer they gave was the importance of including different world views and perspectives in their programs. By spring 2021, there was a 25% increase in the number of participants who believed it is very important to incorporate Indigenous perspectives into children's early learning experiences (from 70% to 95%) with the remaining 5% reporting that it was important. In addition, there was a shift in the reasons they gave for their high ratings at the end of the year. At the end of the year, many mentioned that they believed it was important that they have greater knowledge and understanding of Indigenous perspectives themselves so they could support their children's learning.

New Knowledge Led to Comfort and Confidence

The study findings illustrated that the educators increased their comfort level in incorporating nature and outdoor experiences into their programs during the first year of the study as their knowledge increased. Over the course of the year, the educators were given opportunities to learn about and practice concepts related to environmental inquiry, particularly from Indigenous perspectives. Each of the 10 sites were given picture books by Indigenous authors to share with the children and had opportunities to hear two Indigenous speakers on topics such as All My Relations, the interrelationship and interdependence of all living things, and relationships of gratitude, reciprocity, and care. These topics were also reinforced through a series of six newsletters. Educators shared their new learning and practices with the research team during biweekly visits and through the fall and spring workshops. Sites were also given either a mud kitchen or, if they already had one, a large set of wooden blocks to support outdoor creative play, as well as natural materials such as wood cookies (slices of tree branches or small logs). Laminated, placemat-sized nature identification sheets with photos and names of local plants, animals, birds, and insects were also provided.

In both the fall and spring interviews the educators were asked to rate their comfort level with incorporating outdoor and nature-based learning into their learning on a scale from

one to five. There was a 20% increase (from 65% to 85%) in educators who rated their comfort at the highest level (5) from the beginning of the project to the end of the first year.

Indigenous Perspectives on Land-Based Learning

When asked more specifically about their comfort level with incorporating Indigenous perspectives on land-based learning into their programs, all the educators indicated that their comfort had increased due to what they had learned, but they also realized how much more they needed to learn. As one educator said:

I still have a lot of learning to do about Indigenous principles. I am more aware than I was previously to starting this because I'm exposing children to a lot more and I think that children are capable of understanding. And to me what stands out the most about Indigenous teachings is that we take care of nature, and nature takes care of us.

Educators reported that they and their children were learning about several aspects of Indigenous perspectives on land-based learning over the course of the first year of the study including gratitude for the gifts of the land, how all elements of nature are interconnected, respect for the land, and care for all of creation. The educators spoke of a growing awareness of, and appreciation for, the gifts of the land. At the end of the first year, one educator described how they were expressing gratitude in their program as well as an awareness of how elements of nature are interconnected in the "circle of life":

We thank nature all the time when we do our daily routine now. With our garden, we thank nature for giving us the sun, the water and the rain because we're seeing that it's giving us our harvest. We are seeing our tomatoes. So that's been a big circle of life that we are seeing.

Educators also spoke of how their new awareness has led to practicing greater respect and care, and helping the children recognize the needs of their fellow creatures. One educator spoke of reminding the children that trees are growing beings, just like they are:

We are talking to the children about respecting nature and taking care of nature...why we need to be respectful of the land in terms of not ripping branches from trees just for the sake of ripping

them off. We need to take care of them for them to grow, just like they, the children, are growing.

Educators made connections to specific Indigenous cultural teachings such as The Seven Grandfather Teachings in which seven animals embody seven values for living a good life, including courage and love. One educator commented on how she was learning from these teachings alongside her children and the importance of supporting the children to value their fellow creatures:

Because right now I'm learning. I am learning and I'm helping children learn, like the animals that teach about courage and love and like everything has his own value. Like us. So, we have to let the children know the value of every single thing on this earth.

The Pandemic Propels New Thinking

The COVID-19 pandemic created the conditions for educators to rethink their practice, and in doing so, acquire new knowledge and understanding about how they could facilitate their outdoor programs. Public health advice and restrictions necessitated providing as much of their program as possible outdoors. In addition to acclimatizing to teaching in a new environment, the pandemic propelled and supported new thinking on curriculum content, approaches, and delivery. The educators reported being uncertain and nervous at first, before finding new rhythms, as this educator explained three months after moving her program outdoors:

But again, with COVID it's better to be outside and in July we had to bring our program outside. So, we were nervous about doing that in the beginning. How do we bring everything inside, outside, and back and forth? We've now worked it out.

According to the educators, their new knowledge about Indigenous perspectives on land-based learning led to increased confidence and comfort with incorporating these ideas into their programs for young children. At the initial interviews in the fall, many educators expressed apprehension about exploring Indigenous perspectives in their programs because they worried about making mistakes that might cause offense. By the end of the first year, these worries appeared to have lessened. As one educator explained it, she realized that the Indigenous perspective of compassion for all living things was not such a stretch from her own practice of compassion for

the children and their families:

I guess to me, it's changed in the sense that I'm more willing to take a risk, whereas before I was more apprehensive, because I was afraid of like, you know, not being respectful, which I think I still have but it's been debunked a little bit, because don't we tell children you don't know until you try, right? You've just got to try, and I think that a lot of the Indigenous principles are all about being compassionate, which we have done for years in our program, and I feel I am very compassionate. So, I think that helped me a lot.

One educator spoke about how her growing knowledge and confidence led to greater passion in her incorporation of Indigenous perspectives on land-based learning into her program:

I think in September, I would've done it, but I don't think I would have done it with the passion that I do it now. Greater level of understanding, and I think there's a greater passion in the presentation and in assisting with the children. I think there's a greater understanding—and so with that comes the confidence.

Shifts in Personal and Pedagogical Practices

Greater knowledge and confidence appear to have led to a shift in the educators' personal and pedagogical practices around Indigenous perspectives on land-based learning. They recognized changes in their own practices and relationships with nature in their own lives, as this educator explained:

I don't know in-depth about the culture –just you know, their connection with mother nature, their respect for the sun, for the air, for the plants, for the animals, for the trees. It's really like something you feel, like peace. You feel peace, like kind of peace inside of you. And yes, I myself, I changed a little bit—the way I look at a tree, at a flower, how I observe and watch it growing. Even the ants, watching where they are going. [chuckles]

In addition to a feeling of peace that this educator and others described, other educators spoke about how this new approach to environmental learning and teaching had changed the way they feel about the natural world, their relationship to

nature, and to engaging in nature-based programming such as gardening with the children. One educator explains how she developed these new feelings and relationships alongside the children:

We've definitely taken more of an appreciation towards nature - things that we may have taken for granted before. We're showing appreciation and we're actually giving or feeling appreciation. You know, we say what the tree provides for us, the warmth that the sun provides for us, just for all of those things. And even in gardening...I approached it differently. It was almost like doing it for the first time, like there was just a different feeling to it. And I think that it was felt amongst all of us.

COVID Restrictions Facilitated New Practices

In addition to shifting their perspectives, educators reported a shift in their pedagogical practices, including using more natural materials and fewer commercial toys. This shift originally occurred because COVID restrictions called for children to have separate sets of materials that needed to be sanitized after use. Following this procedure was laborious and time consuming. It was simpler and quicker for educators to encourage children to use natural materials such as leaves, sticks, pinecones, and so forth that could be put in the compost bin after use. The unintended benefit of this turn toward natural materials was the children's heightened interest and curiosity about the natural world, as this educator explained:

We have a lot more plants and we have a lot more wood items that we have incorporated already in the programming for the children, and they do ask about bugs or insects more often now than they had before.

At first educators were worried that the COVID restrictions on their sensory-related pedagogy would limit children's learning opportunities. However, their switch to natural materials led to the realization of the rich sensory learning opportunities offered by playing and learning in natural environments:

Because of COVID, as you know, so many sensory activities are restricted. You cannot put your hands in the water table, you can't play with play dough with other people and all that. And I had the worry that many early years teachers probably

had, of like, 'This is going to restrict kids. These activities are so important to them, and what are we going to do?' And my huge 'aha' this year is that all those sensory activities we do indoors, kids get in nature.

Another pedagogical shift the educators reported that over the course of the year was the purposeful way they incorporated concepts of gratitude, respect, and care for the natural world into their programs. Rather than through formal lessons, they did this through daily practices of encouraging children's curiosity and exploration, caring for the plants, animals, and insects in their environment, and modelling gratitude and using respectful language when referring to non-human beings. One educator expressed it this way:

So, I would say that the joy and the gratitude and the relationship comes from the daily interaction and not through any lesson. And it comes from the modelling of us appreciating and being there with them. That's the biggest piece.... And the language we use around them saying "What does that animal need? Why is it here?" was part of building that respect and connection but I do think it's the daily presence of [the outdoors] being their play space, that helped them to develop an appreciation.

Whereas at the beginning of the project many educators were unsure of how they could incorporate Indigenous perspectives on land-based learning into their programs, by the end of the first year, they were finding that concepts of gratitude, respect, and reciprocity can be included throughout the day, as this educator explained:

I guess originally, I kind of thought of them [Western perspectives and Indigenous perspectives] as two separate entities, but I'm finding that we can incorporate it [Indigenous perspectives] into almost everything we do. When we're eating lunch, when we're going outside into the playground, even when we're walking down the hall. These are all things you can incorporate together which is something I never thought of.

Richer Experiences for Children

The educators' new knowledge, perspectives, confidence, and pedagogical practices led to richer environmental learning experiences for children, according to the educators. They

identified a range of benefits of outdoor learning during the first round of interviews before the project began, but by the end of the first year, the number and type of benefits they reported increased greatly. For example, in the end-of-year interviews, the number of educators who reported that nature-based learning supports self-exploration and expression rose from two to 14, and those who reported that it leads to an awareness of inter-connections with nature and an appreciation for nature increased from eight to 13. In addition, more educators reported health benefits at the end-of-year interviews, including increased gross motor activity and relaxation, doubling from five to 10 educators. In particular, several educators spoke about the calming effect of playing and learning outdoors in a nature-focused program. One educator noted that it was calming for both the children and herself, “I think it’s just very calming for the children. There’s nothing institutionalized about it. I think it’s less stressful. It’s, you know, you’re hearing birds, you can hear the wind with the trees. I find it very, very calming.” Here’s how one educator summarized the benefits:

The benefit for the children is that it gives them the sense of appreciation for our living environment outside. They become more aware of the sunshine. It’s not just there, but there’s a purpose, right? It makes that familiar their environment...So, I think it has great benefits for the children because it also simulates a lot of conversations and learning experiences that are more hands-on.

One of the unexpected benefits that the educators reported was that the COVID-19 pandemic helped get parents on board with outdoor play and learning, and this was despite the challenge that the pandemic presented with parent-educator communication. At all sites, parents needed to drop off and pick up their children at the front door, rather than in their classroom as they did before the pandemic. This meant that there was no direct contact between parents and educators, and parents could not see what was happening in the classroom or playground. Parents needed to rely on newsletters and their children’s reports to keep up to date. While there were a few educators who reported that parents were unhappy with how dirty their children were getting with the increased outdoor play time, most reported that parents understood that outdoors was a healthier place to be. As one educator said when speaking of the change in parents’ attitudes over the year, “I think that COVID has shifted that. COVID has meant parents get it more that we’re outside.” One educator reported that one of the families in her program was so happy with the

outdoor programming, that they felt like they had won the lottery. She explained:

Families were really grateful. One of the families said to us, ‘We won the COVID lottery because our child is three and got to come to this program outside where he got to make mud every day and it was just wonderful!’

Discussion, Conclusion, and Recommendations

Although there is a great deal of concern about the negative consequences of the COVID-19 pandemic on young children’s health, learning, and well-being, this study helps us to understand that some of the restrictions and precautions associated with the pandemic could have positive outcomes if educators were able to take advantage of the increased time outdoors to embrace nature-based learning, particularly from Indigenous perspectives. The educators in this study were eager to learn and incorporate environmental learning from Indigenous perspectives even though many had had little to no professional learning opportunities in this area. Moreover, their urban early years childcare centres had limited access to natural spaces, but they were able to maximize what they had. The young children in the preschool classes were attracted to and eagerly engaged with the natural world around them.

When offered a flexible and open-ended approach to professional learning, and resources for themselves and their children, educators reported positive shifts in their knowledge, comfort level, and practices with respect to incorporating Indigenous perspectives, in both their personal life and pedagogical practice. They also reported a shift in their own, and the children’s, relationships with the natural world to include greater respect and connection, which in turn led to greater engagement and excitement with outdoor learning and enhanced wellbeing. This emergent, active, and inquiry-based approach was very much in keeping with the philosophy of the George Brown Laboratory School and the other pre-school programs in the project.

Although the COVID-19 pandemic undoubtedly created many challenges for young children and their educators, this study demonstrated that it could also provide the impetus to re-think practice and embrace new ways of engaging with the natural world to enhance learning and well-being. Beyond this study, the George Brown Laboratory sites plan to continue to learn about and from Indigenous perspectives on land-based learning to enrich children’s relationships with the natural world which will, in turn, enhance their learning and well-being. The other sites in the study have also indicated that

they have extended the learning resources and insights from the study throughout their organizations. The following are recommendations arising from the findings in this study:

- Partner with an Indigenous Knowledge Keeper, Elder or friendship centre for advice and support.
- Use resources created by Indigenous authors (picture books, videos, articles).
- Give opportunities for educators to share and support one another.
- Respect educators' own decision making with respect to how/when they incorporate Indigenous perspectives.
- Offer simple activity ideas that educators can take up and adapt if they choose.
- Take your time.

Key take-aways:

1. Spending more time outdoors with fewer manufactured materials and more focus on children's curiosity with the natural world (plants, animals, birds, insects, the sun, rain and wind, and so forth) can foster stronger relationships with the natural world for educators and children.
2. These relationships can be deepened by introducing Indigenous perspectives on land-based learning, including concepts of gratitude, respect, and care for the natural world
3. Educators can become more comfortable integrating nature and outdoor experiences into their programs with time and support, and through materials such as picture books by Indigenous authors and nature identification materials, and opportunities to learn and share as a community.
4. Professional development initiatives that include adapting processes and materials as the context changes and that respond to participants' needs and suggestions can lead to meaningful learning and change.

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Resiliency and Lessons Learned: Stakeholder Perspectives on Northwest Missouri Lab Schools' Response to the Pandemic

Laura M. King, Sara E. Taylor, Joseph P. Haughey, and W. Daniel Gordon

“We learned to slow down. As I mentioned before, we chose to meet the children where they were, educationally and emotionally. Sometimes a teacher needed to teach standards from the previous grade before they could move on. Sometimes we needed to scrap a lesson and just have time to be social and goofy in order to meet the children’s emotional needs. We had a practice of asking ourselves and others if at the end of the day were our children happy, safe, and loved? If we could answer yes, then we knew we had done enough.” (Anonymous Teacher)

“I couldn’t be happier with their response throughout the pandemic. The staff at the Center and School have been amazing and the kids all seem so resilient in the face of so many unknowns. I can’t thank the staff enough for the tremendous amount of work they do everyday. In short, the pandemic made me appreciate them even more.” (Anonymous Caregiver)

School Background and Context

The picturesque Northwest Missouri State University campus boasts two laboratory schools: the Phyllis and Richard Leet Center for Children and Families and the Horace Mann Laboratory School, which together serve 178 children from birth through sixth grade. The two lab schools offer a traditional nine-month academic calendar for elementary-age and preschool students as well as year-round daycare programs for infants and toddlers. Founded as a teacher’s college in 1905, Northwest is a four-year regional university in rural, small-town Maryville, Missouri. Since its founding, university enrollment has grown to some 7,200 students in 127 undergraduate and 40 graduate programs. Horace Mann (HM) opened almost immediately after Northwest, in 1906, and has served as a clinical teaching environment for teacher candidates for well over a century. The Leet Center (LC) was founded in 1991 and in the subsequent decades has become integrated as well as a cornerstone of the campus and local community. Almost 1,000 teacher candidates are part of the School of Education’s undergraduate teacher education programs, with some 600 of those active in its laboratory schools through their enrollment in Northwest’s elementary, special education, and early childhood teacher preparation programs.

Northwest’s School of Education and its on-campus lab schools share the same physical space; the teacher-education classrooms occupy the second floor of Brown Hall while the

Horace Mann and the Leet Center take up the first floor. Having teacher candidates and laboratory school students in the same building has led to a collaborative culture where upstairs professors and downstairs teachers lovingly refer to teacher candidates as “talls” and children as “smalls.” This close proximity fosters teacher-education candidates throughout their practicum experiences; from their very first campus visit before they are even admitted, teacher candidates are immersed alongside master teachers in fully functioning classrooms to engage in authentic teaching opportunities with professional feedback to refine their skills as educators. The relationship between master teachers, instructional aides, and practicum students benefits the children most of all as they reap the benefits of low student-to-teacher ratios; there is one master-level teacher or instructional aide (who is required to have an associates or bachelors degree) for every nine children. These model innovative teaching practices and implement learning experiences designed to stimulate each child’s unique creativity and problem-solving skills.

Both lab schools emphasize a hands-on constructivist approach with the implementation of Reggio-inspired instructional practices emphasizing the importance of carefully designed learning spaces with the infusion of elements from nature. This school’s curriculum is child centered and interest based, supporting and enriching children’s development, learning, and growing independence. The Missouri Learning Standards provide the framework of learning at all levels with

play-based learning at the heart of the birth through 5-year-old learning with an implementation of developmentally appropriate interest-based learning for children across all grade levels. Classrooms include a balance of child and teacher-initiated activities designed to actively engage children in learning and promote creative expression. Working in concert with the university, Horace Mann and the Leet Center offer special learning opportunities that extend beyond the traditional curriculum: guitar lessons, robotics, lessons about crops and animals at the university farm, Spanish language instruction, and more. University professors, prior to the pandemic, often offered their expertise as well through student visits, a practice which is gradually returning in 2022.

When the COVID pandemic began to blaze across the United States in mid-March of 2020, the Northwest campus and its two laboratory schools were in the midst of their spring break. When they were dismissed, COVID seemed distant, but by the time children and teacher candidates were to return from spring break, everything had changed. Much was in limbo in those first weeks. Just one day before the lab schools had been scheduled to open, an additional week was added to the spring break to give the university time to plan its next steps and prepare for a shift to online learning. The remainder of the school year had to be facilitated via Zoom and online and home activities assembled by the lab school master teachers and their practicum students. The library moved to the lab school parking lot, where families could safely pick up books for their children. One master-level teacher brought her annual awards ceremony to families' driveways, bringing the experience as close as was safe to her students. Others made similar driveway visits to help build relationships and learning. And families reached out too; one family orchestrated a traveling magic show, which parked itself outside teachers' and classmates' homes where they performed a variety of tricks. Teachers and families did all they could in very difficult times to foster relationships and make learning meaningful and personalized for children.

Summer school, a staple of the Horace Mann experience for many students, likewise was held virtually. Master teachers prepared instructional kits, including supplies and activities, which families then picked up from the school parking lot. These then became the basis for Zoom and individual activities that students completed over the four weeks. The teacher candidates and children interacted online to participate in a project-based learning unit with one driving question: How can we design and host a family entertainment night following social distancing expectations? The teacher candidates and children collaborated to create a list of ideas and came to the consensus that they would host a drive-in movie. Just when the plans for an outdoor drive-in movie

seemed impossible to achieve, the local cinema owner offered to open up all the indoor theaters in the establishment to allow the children to construct cardboard cars to bring indoors for their drive-in movie. At the end of summer school, teacher candidates met the children in-person for the first time in months at a socially distanced, masked event at the local cinema. Children sat with their families in cardboard cars constructed at home and watched Disney's *Inside Out* on the big screen together across five theaters.

With the fall semester of 2020, Horace Mann and the Leet Center opened its doors after a five-month hiatus, but with a number of safety protocols. Class pods were kept separated from one another; lunch, art, music, physical education, and other special classes all happened in the classroom. The playground was divided with a green snow fence that kept classes separate from one another during recess. Table dividers were set on tables to limit the spread of germs, regular hand washing was emphasized, social distancing was enforced, visitors to the school (including caregivers) were not allowed, and everybody in the building was required to wear a mask at all times except when eating. Children and teachers were required to wear their masks even outdoors during recess. Children had learning kits in their classrooms so that they would not need to share materials, and the teacher candidates built learning opportunities built around the contents of the student learning kits to complete their practicum hours.

In the fall of 2021, Leet Center and Horace Mann opened their doors again to caregivers and other limited guests but kept its mask requirement. Other local schools gradually lifted theirs, but the Northwest administration insisted that Horace Mann and the Leet Center maintain their mask rule until March 2022. In this, they remained in lockstep with the larger university policy, which likewise required its college students to wear masks in classrooms and labs. These policies, though, contrasted with the larger Maryville community, whose businesses and other institutions had largely made mask use optional over the course of 2021. Though both Horace Mann and the Leet Center were not exempt from student and teacher quarantines and isolations, these were less frequent than in other local schools which also had adopted an optional mask policy, and they were able to keep their doors open for student learning from the fall of 2021 onward.

Research Problem and Question

As LC/HM emerged from the pandemic in March 2022, a faculty group conducted a survey of LC/HM caregivers, teachers, and employees to better understand how policy shifts had impacted learning, wellbeing, and morale. What are stakeholders' perceptions regarding Leet Center and Horace

Mann policies in response to the COVID pandemic? The survey questions were developed by the International Association of Laboratory Schools and implemented at multiple institutions to gather a global perspective (see Appendix).

Literature Review

The coronavirus (COVID-19) global pandemic declared on March 11, 2020 by the World Health Organization (WHO) caused disruptions in education across the globe forcing many educational institutions to shift entirely to online instruction with very little preparation (Dhawan, 2020; Ersin et al., 2020; Viner et al., 2020). While many higher learning institutions were able to make the shift to online learning, the nationwide school closures were a cause for concern among advocates for children in elementary and secondary schools due to the loss of education and health resources for nearly 60 million students (Masonbrink & Hurley, 2020). Most schools, teachers, and families were unprepared for the challenges required by the need to practice social distancing by staying home to prevent the spread of COVID-19 and make the switch to online learning (Garb et al., 2020). The Missouri state governor mandated the closing of all public schools with the directive for school districts to provide alternative educational opportunities (Office of Governor Michael L. Parson, 2020). However, one in five Missouri schools faced significant challenges in meeting the needs of reaching students through online learning opportunities (Missouri Department of Elementary Education, 2020).

Higher education with educator preparation programs also faced the challenges of the school closures, with many teacher candidates in need of placement in practicum experiences in traditional elementary and secondary school environments (Carillo & Flores, 2020; Nasri et al., 2020). Practicum experiences are a critical component of teacher education programs as well as a legal mandate (Wyss et al., 2012). Among the benefits of practicum experiences is the ability for teacher candidates to practice teaching strategies and reflect on their experiences implementing lessons with students (Scott et al., 2014). The transition to online learning was no longer a choice, but a necessity (Dhawan, 2020).

Due to university affiliation, laboratory schools held a unique position at the onset of COVID-19. According to participants of the International Association of Laboratory Schools (IALS), some universities chose to furlough its laboratory school faculty while others chose to use their laboratory school faculty to facilitate teacher candidates through online teaching experiences with students. This allowed some laboratory schools to meet the needs of both children and teacher candidates.

Methodology

This research was conducted as a within-site case study bounded by the Phyllis and Richard Leet Center for Children and Families and the Horace Mann Laboratory School employment or enrollment. According to Creswell (2013), case study research allows for the in-depth understanding of a bounded system (or case) through the collection of many forms of data. This intrinsic case study focuses on the unique challenges faced by a midwest lab school during the COVID-19 pandemic.

Researchers distributed qualitative surveys to Horace Mann and Leet Center teachers and caregivers in March 2022. The researchers utilized a cross-sectional survey to determine stakeholder perceptions on the changes during the pandemic through an email to caregivers of children and teachers. A cross-sectional survey provides insights on a phenomenon at a particular point in time and provides information used for change (Fink, 2017). A small number of closed-ended questions were used to gather information on role, employment status, quarantine, and types of instruction. The only question which forced the respondent to make a choice was the role which led respondents to the applicable series of questions. The benefit of this type of data collection is the efficiency and ease of interpretation by the researcher (Fink, 2017). A set of open-ended questions used in the survey allowed the researcher to obtain information in which the respondents may expand the expression of their views. These types of responses permit the researcher to categorize and interpret the responses. Researchers can utilize qualitative data to derive meaning and offer information, which may lead to further questions needed to inform the research (Creswell, 2014).

The survey was closed for responses after two weeks and select researchers analyzed the data. In order to maintain respondent confidentiality, only aggregated responses were shared with the lab school director. The closed-ended questions were used to establish a response rate by role. The open-ended questions were analyzed using categorical aggregation and the creation of themes to allow relevant meanings to emerge (Stake, 1995). Additional forms of data were collected from the lab school director, who now oversees both the Leet Center and Horace Mann schools. This included enrollment information, a description of the context of pandemic-related policy changes, and teacher email addresses.

Findings

Teachers commented specifically on difficulties inherent in requiring masks. These made instruction and relationship-

building difficult. It is difficult, for example, to teach phonics basics and develop speech when children cannot see how their teacher's mouth is moving. One teacher explains that:

The biggest challenge was teachers and staff wearing masks for an extended time. I think this hindered students socially and academically in the reading area specifically. I believe the teachers ability to speak and maintain student focus was drastically reduced.

Facial expression, physical proximity (e.g., a hug, playing together) are tools teachers used before the pandemic to nurture student relationships, but with pandemic restrictions came a sterility that impeded these types of relationship-building interactions. Caregivers too commented on the mask requirement; one parent one of these reported that “the masks were also an issue. My child could not see the teachers' mouth, nor could she hear them so they had trouble picking up on phonics. We also experienced headaches from having to wear the mask.” Some caregivers were critical that masks were required for so long while others appreciated that it continued as long as it did, citing elderly family members and wanting to do all they could to protect them. Some caregivers were disappointed even in March 2022 when the mask requirement was lifted.

Caregivers and teachers commented extensively on the challenges of teaching students virtually. In the early weeks of the pandemic when all learning was virtual, and in subsequent years when quarantined students joined the class through Zoom or when lessons were delivered through Google Drive, Seesaw, or Clever, learning suffered. One caregiver explained that:

When everything was shut down and my child was learning at home, I found that his focus was definitely not there. It was difficult for me to work from home as well as homeschool my three children and keep them engaged in their studies. I know that my son did not get everything that he needed, even though his teacher did everything she could to provide him with a quality online education. He missed his friends. He missed his teachers. He missed the hands-on learning and sharing ideas. I(t) was hard on him. I saw a rise in my girl's anxiety during this time as well.

One of the lab school teachers additionally reported:

It is known that children missed out on some education during the shutdown in early 2020. They moved on to new classrooms without the same amount of content mastery as children before the pandemic. This meant we needed to

accept gaps in learning and teach the child at their current level with their individual needs.

While online platforms provided opportunities – one teacher described having students not only Zoom into lessons, but also using Zoom to bring them into group activities, pairing with children physically present in the classroom for games, chatting, and show and tell, making sure that they still felt “included and remembered” – these platforms also made formative assessment far more difficult, left many children disengaged with learning, and struggled with building classroom community when compared with face-to-face learning. Respondents universally agreed that despite teachers' best efforts, virtual instruction fell far short of in-class learning. None embraced digital learning or found it a satisfactory replacement for face-to-face experiences or saw it as a preferred learning mode moving forward after the pandemic.

Caregivers in particular reflected on how disruptive it was to their children's learning and their family's home life when children needed to be quarantined. Some felt that lengthy quarantines aligned to CDC guidelines were unnecessary and not in the best interests of their children. Others wished there had been more done to keep their children included in classroom activities while they were home in quarantine. Caregivers also expressed overwhelming support for Leet Center and Horace Mann teachers. In response to the question, “how did the lab school's philosophy, values, and/or principles affect your experience of pandemic learning,” for example, all respondents expressed appreciation for the efforts of Horace Mann teachers. One such response explained:

The staff at the Center and School have been amazing and the kids all seem so resilient in the face of so many unknowns. I can't thank the staff enough for the tremendous amount of work they do everyday. In short, the pandemic made me appreciate them even more.

Both caretakers and teachers believed there was a long-term benefit in the school strengthening its hygiene practices. Whereas previously students had been taught to wash their hands after using the bathroom and before eating, starting with their return in the fall 2021 semester, children and teacher candidates also washed their hands upon arrival and after coming in from outdoor play. Every time that students entered or left the classroom, they were to wash their hands. Children learned to make a “bubble glove” when washing their hands, taking the time to completely cover their hands with soap and between their fingers. One teacher summarized the schools' unwritten policy:

Whatever it takes to stay open. The sanitizing, making time for handwashing, putting up barriers, organizing classroom lunches, and constant mask-wearing for almost two years was a lot to bear for teachers and students alike. We could have been miserable. Instead, every adult in the building pulled together and made it work – for the sake of the students. Because we all knew that these measures meant we got to keep meeting face-to-face with students, and that was most important.

Most respondents believed that these better hand washing routines and a strengthened emphasis on preventing illness will make the two lab schools safer and cleaner for everybody in the building over the coming years.

Analysis and Discussion in the Laboratory School Context

By the fall semester 2020, the underlying principle at Horace Mann and the Leet Center was to take all necessary steps to keep face-to-face learning to the greatest degree possible. Teachers agreed that implementing protocols like masking and social distancing in order to keep the school open were necessary, though there was disagreement whether these measures lasted too long or not long enough. Other local schools had made masks optional as early as the fall of 2020 and some survey respondents wrote that they thought Horace Mann and the Leet Center should follow suit. In hindsight, some of those local schools had to close at various points in the two years following that outbreak as cases spiked amongst their student body, and Horace Mann and the Leet Center did not. Teachers saw a trade-off in maintaining the protocols in order to keep learning face-to-face, but at a cost in having to maintain protocols far longer than nearby schools. Respondents overwhelmingly saw little or no significant potential in utilizing digital learning strategies moving forward for teaching children. They universally believed children learned better from face-to-face instruction.

Conclusions and Recommendations

One clear takeaway from the survey respondents was the need to continue to adhere to improved health and sanitation measures developed during the pandemic. COVID has taught everybody the benefits of frequent hand washing and disinfecting surfaces. It also taught us to prioritize other healthy practices, such as coughing into our elbows and staying home when feeling symptoms. Additionally, to this same end, it taught that reducing classroom clutter makes spaces safer

for students. Less clutter means fewer items that need to be disinfected. It allows better spacing for children and teacher candidates. Moving into the future, these lessons will lead to better health and fewer overall absences.

The most important takeaway from the survey results was that continuing to foster a strong sense of school community among children, teacher candidates, teachers, caregivers, and other stakeholders needs to remain a priority. Fostering strong relationships and community has always been a priority for Horace Mann and the Leet Center, and the pandemic reinforced the importance of that underlying philosophy that has long guided the lab schools. It was the trust and collaboration between caregivers and teachers that kept the lab schools open in the two years following the return from the COVID outbreak, and it is that same trust and collaboration that will keep the schools safe and nurturing environments for children to grow and learn for many years to come. The survey results also indicated that the decision to prioritize face-to-face learning was well supported by all stakeholders. That Horace Mann and the Leet Center were able to stay open while other local schools had to close indicates that the steps taken to protect teachers and students worked and maintained in-person learning to the greatest degree possible. Mask wearing was difficult. Social distancing and quarantines were difficult. And while it is entirely possible that these restrictions could have been removed earlier without leading to an outbreak, in hindsight, keeping them in place through March 2022 proved the best compromise.

The surveys also indicate that moving forward, decisions regarding technology adoptions need to be made thoughtfully; it will be imperative to weave improved and new technologies into the classroom in ways that continue to foster and prioritize face-to-face student learning. Stakeholders were overwhelmingly disappointed with technological approaches during COVID lockdowns and quarantines (such as Zoom classes). These had their place and were necessary at the time to keep teachers and families safe, but anecdotal evidence and survey responses demonstrate that these technologies for young learners were not optimal. Multiple respondents commented on the challenges of at-home learning in the first months after the outbreak, and also how the return to face-to-face learning in August 2020, after five months of shutdown, was particularly special. Teachers love teaching in the presence of children, and children love learning in the same room with their teachers and peers. Technologies in the face-to-face classrooms that enhance learning (e.g., whiteboards) as well as technologies that communicate with caregivers (e.g., Seesaw) all have a place. Nevertheless, technologies that push learning from the early childhood and elementary classroom, such as remote learning tools (e.g., Zoom), are inadequate substitutes;

these have value when a child cannot physically be in the classroom when having symptoms or for other health reasons, but they are not for best everyday learning.

The move to digital, online learning during the shutdown of March 2020, while necessary, highlighted the importance of the social nature of the face-to-face classroom. Prior to the pandemic, Horace Mann and Leet Center teachers had researched and considered the integration of online curriculum as a way to manage learning gaps and collect student data to differentiate instruction. Upon the return to face-to-face learning, teachers unanimously agreed, though, that this option no longer matched the schools' values. Instead, an increased focus has been on the integration of a child study team and the use of interventions, based on the fundamentals of small group learning, and focused on individual children's needs as identified in quarterly screenings and progress monitoring. While face-to-face learning is the preferred method of instruction, this is not to suggest that children should learn in a classroom void of technology.

Rather, teachers moving forward need technologies that integrate with the physical classroom as they prepare students for an increasingly digital landscape. In classrooms at the lab schools today, visitors can observe children using technologies that allow them to express their learning in a manner that matches their development and interests. For example, in recent lessons, children have used digital publishing software as an avenue for writing out a story, recording software for listening to themselves read as they strive for fluency, webcam recordings for presenting their number sense as they work through a math problem, as well as a host of similar activities in which learning weaves together with the best of digital tools into a physical classroom space built on rich relationships among children, candidates, teachers, caregivers, and other stakeholders. Overwhelmingly, our respondents made it clear that their children grow, learn, and connect best in face-to-face classrooms that emphasize community building and child-centered approaches.

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Appendix

Teacher Questions

1. In the 2020-2021 and/ or 2021-2022 school year, which of the following roles did you have at Horace Mann and LEET Center?
 - a. Teacher/ Staff (1)
 - b. Parent (2)
 - c. Both (3)

2. Are you a full-time/ part-time employee or student worker?
 - a. full-time (1)
 - b. part-time (2)
 - c. student worker (3)

3. Did you have to quarantine?
 - a. No (1)
 - b. Yes (2)

4. What types of instruction did you utilize? (Check all that apply)
 - a. Virtual Asynchronous (1)
 - b. Virtual Synchronous (2)
 - c. Face-to-face (3)

5. What challenges did you face with teaching and learning during the pandemic?

6. What changed for you in your approach to pandemic teaching and learning and why?

7. Given the impact on children's development and education, what will you change or adapt to meet the needs of the children going forward?

8. Were there any changes at Horace Mann/Leet Center that occurred as a result of the pandemic that you believe should continue?

9. How did the lab school's philosophy, values, and/or principles help shape your response to the challenge of teaching and learning during the pandemic?

10. What did you learn about supporting children's wellbeing or engagement with learning during the pandemic?

Parent Questions

1. When was your family enrolled in Horace Mann or LEET Center? (Check all that apply)
 - a. March 2020 (1)
 - b. March 2021 (2)
 - c. August 2021 (3)

2. What grade level(s) is(are) your child(ren)? (check all that apply)
 - a. Infant/ Toddler (1)
 - b. Preschool (2)
 - c. Transitional Kindergarten (3)
 - d. Kindergarten (4)
 - e. First/ Second (5)
 - f. Third/ Fourth (6)
 - g. Fifth/ Sixth (7)

3. Did you have to quarantine?
 - a. No (1)
 - b. Yes (2)

4. What types of instruction did you experience? (Check all that apply)
 - a. Virtual Asynchronous (1)
 - b. Virtual Synchronous (2)
 - c. Face-to-face (3)

5. What challenges did you and your child/children face with pandemic learning?

6. What helped you and your child/children cope with those challenges?

7. What changed for you during pandemic learning and why?

8. Given the impact on children's development and education, what will your child/children need to support their learning going forward?

9. Were there any changes at Horace Mann/Leet Center that occurred as a result of the pandemic that you believe should continue?

10. How did the lab school's philosophy, values, and/or principles affect your experience of pandemic learning?

Teachers' Learning During Emergency Remote Teaching at the University of Puerto Rico Secondary School

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“It doesn't matter what is going on around us, we will continue having class...”
(Theater teacher, Lucy)

School Context

Established in 1913—just 10 years after the founding of the *Escuela Normal*, the early teacher-training institute which would soon evolve into the University of Puerto Rico (UPR), the *Escuela Secundaria UPR* (University of Puerto Rico Secondary School) is a public laboratory school, part of UPR's main Río Piedras campus and a department of its College of Education (Rigau, 1968). It was the first public school in the capital city of San Juan and boasts a long tradition of innovation and teacher training (Saez, 1988), together with dozens of distinguished alumni.

Still commonly known by its earlier, English-language initials, “UHS” admits 90 students to the 7th grade each year: somewhat more than thirty 6th-grade graduates of the UPR Elementary School (EEUPR) are joined by the highest-scoring applicants from other schools, in what is probably the most select group of students of that level in Puerto Rico. Parents pay a \$100 yearly fee, plus an optional \$125 yearly membership in the Parent-Teacher Association, enabling low-income students to attend, but the admission requirement, which includes a standardized test, skews the student population toward middle- and upper-middle-class families. Apart from the EEUPR, most 7th graders enter from private schools. This is a concern for the UHS faculty, which has approved changes to the admission process to encourage admission from public schools other than the EEUPR. The school's mission is to prepare leaders in all walks of life, and academic standards and workload are among the highest in Puerto Rico.

UHS is home to over 500 students between grades 7 and 12, and over 40 full-time faculty members. About two-thirds of UHS' faculty are among the growing number of non-tenure-track faculty across UPR's eleven campuses, as “austerity” measures have included a near-freeze in tenure-track hiring while the Baby Boom generation approached and entered

retirement. As high-quality public education is anathema to the neoliberal agenda presently being put in action by the unelected Fiscal Oversight and Management Board for Puerto Rico, UHS's future is uncertain.

Research Problem and Questions

Like many other jurisdictions, Puerto Rico scrambled to keep children and teachers healthy while guaranteeing access to education. In an education system that had been battered by bankruptcy and corruption, halted by Hurricane María and several earthquakes, the pandemic was the toughest test yet (Atilas, 2021). In a survey of one thousand public pre-K to twelfth-grade teachers conducted by The Rand Corporation, 98 percent of teachers reported that their schools had physically shut down by March 31 of 2020 (Hamilton et al., 2020). With the pandemic shutdown, teachers and administrators were suddenly struggling to deliver a curriculum that was designed to be taught in-person to students who often lacked technological resources and skills for managing educational platforms.

While educators' work was by no means as heroic as that of the health professionals who stood directly in harm's way during the pandemic, arguably no other profession was as dramatically upended by the lockdown as ours. The heroism of physicians and nurses lay in the extreme stress and mortal risk they endured, as they did what they had spent years preparing to do (though they might never have imagined the intensity of the stress and risk they were to face). Educators, on the other hand, were suddenly confronted with a situation which most had never contemplated, and the minority who had practiced some form of distance education, or had some familiarity with the digital tools which would become teachers' mainstays during the pandemic, were nonetheless far from ready for the radical change in the conditions of our work which was abruptly thrust upon us.

Although online learning predates the pandemic by many years, it was never designed for emergency use, but typically planned well in advance, with special curriculum adaptations and staff training. Marshall et al. (2020) have proposed using the term “Emergency Remote Teaching” (ERT) to describe pandemic online teaching, highlighting how this situation differed from the online teaching as it had developed until then. The shift from in-person to online learning required teachers to adapt to an unknown methodology which required new approaches (Hickling et al., 2021; Pressley & Ha, 2021) and led them to overcome various obstacles in order to teach.

This study aims to analyze how faculty and staff at the University of Puerto Rico Secondary School experienced, and taught through, ERT between March 2020 and March 2021: the abrupt shift online and improvised end to the Spring 2020 semester, the entire 2020-2021 year taught online, and a “hybrid” period from August 2021 through March 2022. The following questions guide this study of how UHS weathered the pandemic as a community.

- How did UHS faculty and staff cope with the transition to (and from) ERT?
- What did UHS faculty and staff learn during ERT, about teaching online and teaching in general?
- What were major challenges faced during the changes in distance learning models?

Literature Review

There is agreement that ERT was difficult, even traumatic. In Marshall et al.’s (2020) study of 328 teachers, 92.4 percent reported that they had not taught online before the pandemic and only 49 percent of them reported feeling prepared. In a study by An et al. (2021), 60 percent of teachers reported that online teaching was stressful and 81 percent of respondents reported that they preferred in-person teaching (2021). Some surveys of teacher attitudes also found that the switch to online teaching was more difficult for older teachers (Chandwani et al., 2021; Kara, 2021; Kraft & Simon, 2020; Masry-Herzallah & Stavitsky, 2020) and for female teachers (Kara, 2021).

One of the main problems cited in studies of ERT was a “digital divide” between many students from poorer families who lacked computers and internet access and more affluent students who were able to access online classes (An et al., 2021; Darling-Hammond et al., 2020; Marshall et al., 2020). Another was teachers’ need to care for and supervise their own children learning at home, while teaching their students online (Marshall et al., 2020).

Teacher surveys highlighted the lack of student participation. In the Rand Corporation survey, this issue appeared as an even greater concern than curriculum. Thirty-three percent of respondents identified the need for “strategies to keep students engaged and motivated to learn remotely” as a major need, whereas only 5% identified the need for “strategies to adapt the curriculum I was already using to continue its use via distance learning” (Hamilton et al., 2020). Further, Chandwani et al.’s survey of teachers in India found that teachers reported that “they are not able to judge the facial expressions of students, their attentiveness and interest in the subject” (Chandwani et al., 2021). Kraft and Simon found that teachers working in high-poverty schools and teachers at schools that serve primarily African-American students reported even lower student engagement (2020).

Other difficulties related to academic integrity and standards. Teachers reported struggling to control student cheating on online assignments and measurements (Babincakova & Bernard, 2020; Chandwani et al., 2021). “Voices From the Virtual Classroom,” a survey of 600 pre-K to 12 public school teachers conducted by Educators for Excellence, found that teachers’ top concern about their students upon returning to the classroom was academic decline (2020).

Some academic subjects raised particular issues. The chemistry teachers surveyed by Babincakova and Bernard were concerned that their students did not develop manual laboratory skills and did not compare multiple data sets since they were not able to conduct experiments with partners at school and mainly watched someone perform the experiments. Music and Physical Education teachers likewise struggled to find ways to develop embodied and interpersonal skills (Calderón-Garrido & Gustems-Carnicer, 2021).

The Rand Corporation study also found that administrators prioritized the same needs as teachers. For example, most members of both groups identified student access to counselors and psychologists, training to support teachers to deliver distance learning, and strategies for teaching hands-on learning at a distance as moderate to very major needs (Hamilton et al., 2020). Administrators and teachers interviewed by Parr (2020) reported concerns about student access to technology, although both groups also noted the positive effect of being forced to become more creative.

Many of the teacher-focused studies also included examples of teachers who saw positive results from pandemic teaching. Teachers in Marshall’s study saw the shutdown as an opportunity to prepare for the future, and believed that even after the pandemic, schools should have “digital learning days” (2020). Likewise, teachers surveyed by Chandwani et al. thought online education should continue after COVID for at least 30% of classes (2021).

Methodology

The entire UHS faculty were invited to participate in this descriptive study, on a voluntary and confidential basis. Official recruitment of participants began in 2021 after receiving authorization from UPR's Institutional Committee for the Protection of Human Subjects in an Investigation (Spanish initials CIPSHI). The research team took pains to include at least one representative from each academic area, administration, library services, technology and counseling, who worked at UHS between March 2020 and March 2022. We conducted semi-structured, individual interviews by videoconference, lasting between 30 to 60 minutes, asking a sample of 16 secondary school teachers and 4 administrators about their ERT experience during that period, then transcribed and analyzed the interviewees' responses using an inductive thematic method.

Findings

Administration: A Laboratory School in the Pandemic

At the beginning of the COVID-19 pandemic, the school's administration scrambled to come up with new protocols to deal with the virtual school. Then-Acting Principal Alina commented that although the situation was sudden, "teachers were giving their all...There was commitment from the teachers to be excellent as they always had been." Because of that, all the administration had to do was to plan, guide, and manage their efforts.

This facilitation revealed a new set of challenges, though. First, while some teachers were comfortable with digital technologies, others were new to online teaching platforms; administrators had to identify the latter group and design a plan to support them with help from Renée, the librarian. Second, not all teachers and students had the computers, laptops, internet connections, and other tools needed for distance learning. Administrators moved quickly. "The Dean authorized us to facilitate computers to those students who needed them," Alina reported. The Parent Teacher Association (and some individual parents) provided computers and paid for individual students' access to the internet. Assistant Principal Jenny said that the "secretary of the Parent Teacher Association would go to Claro¹, purchase a router, and deliver it to parents." By August 2021 (and in most cases by May), each student and faculty member had at least the minimum equipment necessary.

It was then time for the administration to build or repair bridges between students, teachers, and parents as communication hurdles surfaced.

No longer sharing a common physical space, it was unclear how and when students and parents would meet with teachers. It became the administration's job to facilitate communication at all levels, which Alina quickly realized was "a major challenge." Edith, who would later be principal in 2021-22, said, "I just can't be available 24 hours." Boundaries were uncertain, and the administrators worked to help students, teachers, and parents set them. Alina noted that the school successfully established norms and policies to solve these issues because "everyone participated" in the process. All parties engaged in continuous conversations because, as Alina put it, "without dialogue it could not have been done."

When the time came to reopen the school, Alina knew that even with a democratic decision-making process in place, they "could not please everyone." "Decisions had to be made thinking about the common good" with all sectors of the school community being heard. Although many parents wanted their children to return to school full-time in August 2021, the faculty decided "we were not ready, and ... the return to in-person learning had to go step by step." Newly appointed Acting Principal Edith had grade-level faculty teams divide the students into three cohorts that would alternate between in-person and online attendance. By October 2021, the three cohorts were reduced to two, so that each student would be in person half the time, and remote the other half. Thinking back, Edith and Marcos, her assistant principal, agreed that teaching by cohorts was cumbersome, but "it was a good decision."

As a laboratory school, UHS is far more autonomous than Puerto Rico Department of Education schools, but was constrained, by being part of the 12,000-student UPR Río Piedras campus, in ways that private schools were not. Consequently, UHS students returned to face-to-face learning after private schools had begun but before the Department of Education of Puerto Rico allowed its schools to open.

Edith noted that when they did open, Puerto Rico Department of Health instructions required public schools to keep their students inside their classrooms for the entire school day; rotating between classrooms was not an option. At UHS, specialized classrooms and a schedule designed to be compatible with students taking undergraduate courses at the main campus made this impracticable. UHS administrators did have to contend with the UPR-Río Piedras' COVID-19 Committee, which imposed stricter safety measures than private schools had to operate under. Private schools' response to the pandemic was driven primarily by their need to stay open and continue receiving tuition payments. While UHS parents did clamor for a faster return to face-to-face instruction, as a laboratory school, it was able to take a more

1 Claro is one of the largest telecommunications companies on the island.

measured approach thanks to the faculty's autonomy and the need to comply with the University's COVID-19 policy. Edith recalled that the "cohort" hybrid model, which was generated by UHS faculty and staff, was a compromise between the UHS community's desire to return to in-person teaching and learning, and the more conservative institutional response.

Although research involving students as subjects was severely restricted due to the IRB's COVID-19 requirements, UHS wound up serving as a laboratory in a different sense during the fall of 2021—testing hybrid-learning methods while most of the campus remained fully online. During 2021-22, UHS also stood in contrast to many public schools that kept their students locked-down in their classrooms, and to many private schools where safety measures were kept to a minimum: in Alina's words, UHS was "a model school for the University of Puerto Rico... a mirror where others could see themselves."

Technology

The sudden shift to online classes necessitated the use of the internet and a way to connect to it. Most school staff already had computers and internet at home, but as the administrators observed, some students did not. Renée, the librarian, stated, "There is a digital divide although we think that's not how it is in our community." Other interviewees noted the disparity between the lower and higher income students: despite the efforts to help students, teachers reported that some students still connected to class using cell phones, which made it difficult to fully participate in class and use learning platforms.

Moreover, even when students and teachers paid for broadband connections, they were stymied by the instability of Puerto Rico's power grid, still barely patched-together since Hurricane María devastated it in 2017. English teacher Monica said, "In Puerto Rico, we have a lot of problems with electricity. I had one student who was in a rural area and with any little breeze, they had a problem." Even with power, many internet connections were intermittent. Social Science teacher Ana said she taught from the school in order to have stable internet; Monica reported that her connection was poor every afternoon. Aside from practical implications, Ana pointed out that electrical and internet problems caused psychological stress for teachers and students alike. These frequent problems also provided a convenient excuse for students to avoid connecting to class. For Math teacher José, "It was always the same ones, and they almost always lost internet; you knew they were tricking you."

Challenges of Pandemic Teaching

Like educators around the world, UHS faculty were caught between an unexpected and drastic change in professional expectations, and for many, equally unexpected and difficult situations at home. Monica, who teaches English Lab to most of the UHS student body for a single, hour-long, weekly class², was one of several for whom work and home life did not blend easily, when both suddenly collapsed into a single living space:

My son was going to school, my husband was teaching from our garage and he has such a loud voice my students could hear him... The first week was rocky, the second week got better (but) I needed to take an eye break, a back break and we used to go to the park and walk the dog, walk the kid and everything. It was tedious to sit so many hours, we got new chairs. It was a big transition—physical, psychological and family. For some reason time was tighter online, and you had to deal with power or internet going out... I had to restructure my classes, have different assessment methods, and promote the speaking of students who had never spoken in English, but now imagine doing it into a microphone, and online.

Like many others, Science teacher Edith, who would take over as Acting Principal during 2021-22, struggled to re-establish boundaries which had suddenly vanished

Work was taking over our home spaces. I always get up at 4:15 a.m. to take care of my pups, and by 5 or 6 p.m. I was still at the computer. Where does it stop, how long can I keep working?

Health was another concern:

I was sick from March until May 2020, one flu after another. I took 3 COVID tests, sure that it was COVID, I bought a thermometer, which sometimes told me I had a high fever, and that fear took over—but you can't let your students see it. I discovered I could be stronger, and many times we heard the word "empathy"... but who's showing empathy for me?

² English Lab is a one-hour weekly conversational English class which is required for grades 7-9, and for students not in the Honors English track in grades 10 and 11. It is graded with a weight of 20% within each student's regular English grade. Other English, Science, Social Science, Spanish and Mathematics professors teach 3 sections for 4 hours per week, in two 90-minute and one 60-minute class sessions.

Other interviewees pointed to another characteristic of UHS faculty work: seemingly endless committee meetings, many of them scheduled during the lunch hour. Spanish teacher Malena groused, “Nobody thought to slow down the pace of this school... it felt violent, even though that was not the intent.”

What the entire faculty struggled with, of course, like teachers around the world, was how to do our work in this new, rarefied atmosphere of the online environment, stimulus-poor with respect to the physical classroom—and even more so in comparison with the students’ environments, both in their physical homes and the other digital devices and applications which constantly beckoned, just a click or a tap away (Seale-Collazo, 2021).

How to “teach,” in the most rudimentary sense of communicating ideas to students? As in Chandwani et al.’s (2020) study, UHS interviewees almost unanimously identified the importance of visual cues in face-to-face teaching for making decisions about how to adjust one’s presentation in mid-class. That crucial feedback was unavailable online—even when cameras were on—because body language is a large part of it.

Beyond the immediate issue of how to present information through the new media, loomed the deeper conundrum of student engagement. Like educators everywhere, UHS faculty were hard pressed to keep students engaged, and used a variety of methods. Juliana, who taught Computing—the only interviewee who said she liked teaching online—named this as her primary challenge:

The worst part, really, was making sure the students were there. You have to prepare a class that will interest them, draw their attention, I believe in *sorprendizaje*.³ If there’s not a “hook,” it’s very easy to lose them; it takes much more work for teachers not to lose them—like 3 times more work.

Another common complaint about ERT was cheating. Mathematics teacher José admitted that “I always understood that they were communicating via WhatsApp, they knew the answer. I could [only] demand they show their work, reveal their thinking.”

Malena, the Spanish teacher, struggled to find a solution to individual student accountability online:

I give a quiz before I start each text, and soon I was noticing subtle ways of copying. They’re using WhatsApp; it was like giving a group quiz. I believe in cooperative learning, but I have to

check for reading individually. Evaluation was the most frustrating part. In my classroom, everybody leaves their cell phone at the door, but online there was a lot of cheating.

On the issue of cameras, as elsewhere, interviewees varied widely; some insisted on the cameras being on, over-determined student resistance and frequently having to recognize that some students legitimately had electric power, hardware or bandwidth issues that made it difficult for them to keep their cameras on. Others preferred not to pressure students to turn their cameras on. Lucy, the Theater teacher, shared her take:

[laughs] In Theater, I can’t evaluate them unless they turn their cameras on. Most kept them off, but I told them last semester that there will be times when the teacher tells them to turn the cameras on or open their mikes, even though I’m aware not everyone has the same internet access and not all the images were good. So I have to be very careful because it would be unfair to require something students can’t provide. Keeping the cameras on has been another challenge, and ... not making anyone feel bad because they don’t have what others have. So I’ve had to use all the Peace Education resources, all the time.

Naymary’s perspective as Counselor shed some light on the issue:

There’s a difference (between online and in-person). [With cameras on,] you’re seeing me, not just a picture I put up with my face just so, so I look thinner or my hair looks longer... and when a teacher asks, and I don’t answer, I’m seeing everybody’s faces. Adolescents always think about what others are thinking of them, they’re preoccupied with what others think. Another aspect is that some students are struggling with gender dysphoria, and having to see their own camera image is very hard.

Physical Education and performing-arts classes⁴ presented perhaps the most formidable challenges, as they entail teaching embodied knowledge: how to hurl a javelin or an iron ball; how to sing or play instruments together with others; how

3 A neologism made from the Spanish words sorpresa (surprise) and aprendizaje (learning)

4 At UHS, Physical Education is a required 60-minute, twice-weekly course for grades 7, 8 and 9; seventh and eighth graders also take a 4-semester Fine Arts sequence (Music, Theater, Sculpture and Drawing), and ninth graders take a semester of Computing and one of Family and Consumer Science, all 90-minute, twice-weekly courses. All these subjects may be continued as electives during 10th through 12th grades.

to speak and move on a stage. Physical Education teachers scrambled to create videos demonstrating movements, which students were then expected to repeat, with cameras on, or sometimes film themselves executing so as to be evaluated. But Andrés was unequivocal:

During remote teaching, participation dropped, and it's been a challenge to get students to perform movements. My class requires that active participation, it's in the nature and essence of Physical Education: human movement, peer interaction, are fundamental... interaction among students, learning by watching your peers enriches my class, and that was lost. You might argue that you can get that in an interactive virtual classroom, with everybody moving, but I still haven't been able to achieve that significant learning you get in-person. Space, participation and physical interaction in a shared space are the three elements missing in distance Physical Education. You try, but it's not the same as in-person.

He went on:

You can do good movement activities, and you can develop basic skills, but there are limits. For example, there are some materials I use to fine-tune those skills, making movements more efficient, so that they are progressively more complex. I can get students to do a series of movements in place, but as they develop, they're going to need to move through space: jumping a hurdle, running. Those activities can only be done in-person. Unless every student had a track and a drone following them, they need to come to the teacher who has the materials. I can't make them do things with hurdles, road-work cones, or steps because the majority won't have them at home. You can improvise with household materials, but I can't observe them the same way... for Physical Education at a distance to be equivalent to an in-person class, there would have to be really extraordinary circumstances.

In Daniel's Music classes, the seventh and eighth grade music-appreciation classes posed minor challenges, in comparison to organizing a concert for a 45-member student chorus: it is impossible for that many people to sing together using normal video-conferencing software and sketchy internet connections. He was forced to cancel the 2020

student concert, but was determined not to let that happen the following year, despite it being fully online. Counselor Naymary was especially challenged to address students' emotional needs remotely:

I like being in direct contact with students. I like to observe them, doing things like putting on music or art therapy when they come in with a lot of stress... I couldn't do any of that. I'm one of those people that think 10 hugs a day is good for your health. The pandemic took that from me... [but] I learned to find ways of understanding the students I could only see in their picture. You don't see the body language so you have to listen to the voice. In the pandemic, I had to ask, are they speaking faster, or more slowly? Nonverbal language tells us a lot. I had to ask questions, like "This is what I'm understanding, am I getting it right?" I knew those techniques, but I didn't need them so much because I had students in front of me. I realized I had to ask things like "Does what I'm saying make sense?" because I couldn't see their facial expressions.

Student Engagement Issues

The UHS students who experienced ERT belonged to Generation Z (born between 1995 and 2010) and grew up with digital devices (Gabriellova & Buchko, 2021). Nonetheless, many lacked the technological skills to maneuver independently in remote or hybrid learning environments. Renée, the librarian, commented that she found it "a little contradictory that students have been raised with technology but don't know how to use a calendar, make a list, use an alarm clock, applications that can make life easier". Another teacher commented that "many students are still learning, just like us". They might deftly navigate social media, but awkwardly manage academic platforms such as Google, Microsoft Teams or Moodle. As Renée put it, "technology has always been integrated in the classroom at UHS, but it wasn't until [ERT] that we realized that each technological tool requires a set of skills that perhaps not all students have mastered".

The adaptation process from in-person to fully-remote learning, and later to a hybrid model required teachers and students to adapt to using educational technology, which hampered student engagement. In Malea's opinion, "Students have mastered technology as a form of entertainment, but to be in front of a computer at a specific time," and interacting with 29 squares on the screen plus the teacher, required a

period of adjustment. “Technology has turned into a mask for adolescents,” she added. Remote learning led many students to become reticent in a way that was virtually impossible when face to face with teachers and classmates.

For many teachers, the worst part of the pandemic experience in the classroom was the drop in student class participation: videoconferences and Learning Management Systems were poor substitutes for face-to-face interaction. Several teachers reported feeling they had lost their connection to their students. In an attempt to simulate the traditional face-to-face environment, nearly all teachers always had their cameras on and their microphones open. However, in January 2021, with Student Council input, the UHS faculty approved a policy which stated that students were not automatically required to always have their cameras on. Teachers shared their frustration of having to “fight daily so they would turn on their cameras. I need to see their expressions, I want to know if they are okay...” Teacher Coral stated, “Some turn on their cameras, some don’t. In the classroom you see their faces and you know if they understand.” Counselor Naymary attributed the lack of visual participation to low self-esteem or dissatisfaction with their appearance which is normal at this age and they don’t want to turn on the cameras because they don’t want to be seen... Although it seems like an indirect contact, it is a more direct contact. You can be in a classroom and see the other student’s hair, but you are not seeing the other’s face.

Home environments also played a role: Monica shared that a student was reading something very softly. I asked why she was reading so softly when [in English Lab] it’s important to project our voices. It turns out that her mom was teaching a class nearby and her brother was attending his online class nearby as well, she had to speak softly so that she wouldn’t interrupt them.

Some students shared that their house was small and they could easily be heard by others, decreasing their privacy. With cameras on, family members could be seen in the background, and when students turned on their microphones, other voices could be heard. Some students had to connect from their parents’ workplaces or cars, which were not necessarily adequate for remote learning. Others had to care for younger siblings which hampered their ability to focus on their classes.

Isolation was another obstacle to participation. Monica said, “there were students who were alone for 12-14 hours and you realize this when they speak to you. The only human contact they had was through classes.” Few students turned on the microphone to speak unless called on. One teacher noted “ in the classroom I have the ability to prompt those students who don’t want to participate but here [virtually] it was much more difficult.” Some teachers got students to participate by using the chat feature.

Teachers in the study reported that students were anxious, sad, in crisis, unmotivated, and lacking self-efficacy. Furthermore, remote learning requires students “... to be more focused. To know themselves better, have self-control, minimize external distractions... It does require a student with a minimum focus.”

Academic Honesty

Just as distractions and circumstances in the home environment were beyond their control when assessing distance learning, teachers could not see if students were using other applications, or using their cell phones to communicate with classmates, or otherwise not independently demonstrating their knowledge on assessments. Teachers were sometimes unsure if a student’s work was actually done by that student. Spanish teacher Malena remarked, “taking an exam with the camera off, to me means they copied the exam. I have no evidence that Grandma didn’t do it. I can control what goes on inside the classroom but virtually, I cannot.” Issues of academic honesty often pitted the student’s word against the teacher’s: a sub-optimal dynamic for a learning community. Malena reasoned, “How can I stop them from copying? Stop giving tests. I began to assign modules to be completed in pairs”. Letting students work with partners eliminated the need to seek peer support. Conversations around academic integrity highlighted how digital environments require that students develop an autonomous sense of responsibility and honesty.

Student Teachers and Other Practicum Students

As a laboratory school, UHS is the principal site for UPR College of Education practicum students, hosting between 24 and 36 pre-service student teachers every semester, plus an assortment of pre-practicum students, and some graduate-level practicum students in Counseling. ERT’s effect on them was a major concern. Monica related how

My biggest concern was, I had 2 practicum teachers. I went into Google Classroom which I never used in my life, and opened 13 sections. Then I gave my practicum teachers a crash course in using Google Classroom. I told them, you’re going to practice with me, I’m going to be your mock student... they were very nervous, they had to teach those hours.

In 12th grade English, having practicum students led Lourdes to change her teaching strategy:

They had to meet some specific criteria, and the rubric didn't change (I asked). So I had to make sure the (practicum) students had the opportunity to meet the criteria... We tried to replicate the in-person experience because they had to have a more traditional experience before they go on with their careers... It was interesting, in person we emphasize the use of technology in the classroom, but (in ERT) we had to learn how to incorporate many apps and games to motivate the class. I told them, technically it hasn't been that different: they got to learn some skills to apply to f2f classes.

Naymary was emphatic with her pre-service counselors:

I always had my camera on, and I told my (practicum) students they needed to be smiling and presentable, because kids need to see somebody who was there for them, and they wanted to be able to see them. The appearance of a person who is there to help is very important. You can be wearing a T-shirt, but your face needs to be washed, not looking like you just woke up.

Student teachers were also, of course, valuable resources at times, particularly for teachers in those disciplines where fully or partially remote teaching was particularly challenging: Physical Education student teachers helped by modeling techniques during fully remote instruction, and handling the cameras during outdoor synchronous hybrid classes. Music student teachers helped Daniel divide his 7th and 8th grade music appreciation classes by ability levels and rehearse the chorus by groups when teaching was entirely remote; other student teachers helped their mentor teachers master important digital tools in the spring of 2020.

For Mathematics teacher José, a research Project on which he was collaborating with College of Education faculty involving Desmos, a Mathematics teaching platform, produced an unexpected windfall: the lockdown happened just before he was to introduce the platform experimentally in a single course section. He used it in all of his sections; it enabled him to remotely see what each student was working on in real time. On his own initiative, outside the research project, he had all his student teachers learn and use Desmos, and continued to use it himself, together with his colleague Julio. "These things are what I like about UHS," Julio remarked. "Not every teacher has this experience."

Success Stories

Three interviewees shared stories of success amid the pandemic. Juliana, the Computing teacher, had her students in an elective course create pages showing COVID-19 statistics for different countries in real time; Music teacher Daniel—one of the faculty members most at ease with digital technologies, and who had previous experience producing records—was able to create a digital concert, using professional-grade software to splice together individual recordings from his over 30 chorus members; the concert garnered a respectable live online audience of 2,500, with thousands more views on Facebook Live and YouTube.⁵ Malena was surprised by the success of her online (Spanish) Creative Writing course:

Creative Writing was my biggest worry. That course depends on becoming like family, you need to build trust between students from 10th, 11th and 12th grades, and "what happens there stays there," so it's safe for them to express themselves. They were mostly seniors, and they were all scared because they didn't know what the course was going to be like. I give them writing prompts, they have to illustrate them, make .ppt presentations, they see how everybody else illustrates theirs and at the end, they have a digital book. I had to make up new rules, but it was a success! Everything gets read out loud and everybody gives feedback, with respect. That worked well—everybody wanted to participate. Sometimes, we got on subjects that made me stop the class, because heavy grief was coming out, and suddenly they realize it's safe and they just let go. A lot of the kids were good writers, but the ones that weren't so skillful were the ones giving encouragement to the others. It was like a new family, at a time when they were all alone in their houses. I'd tell them, "I'm not a therapist," but they would say that they could say things they couldn't say anywhere else. I kept listening to them, giving them attention. It was the group that tried the hardest. There were students that weren't fluent in Spanish, and they gained confidence and leadership. They were all mad because it was only one semester. Their books show what they learned; it was the first time I showed my Spanish colleagues what came out of that course, and they were amazed by the quality of the books. I had no idea it would turn out like that.

⁵ Videos of UHS online activities can be viewed at the school's Facebook page: <https://www.youtube.com/watch?v=BKjGfXketQ0> (the chorus sings beginning at 13:55).

Hybrid Teaching

Information about the hybrid teaching situation is more limited as one of us conducted five of the interviews under an earlier IRB authorization in the summer of 2021, before UHS “went hybrid.” The fifteen interviewees who did talk about this experience agreed—and the faculty reaffirmed in a meeting in August 2022—that the seven months of cohort-based hybrid learning were a lesser evil than remaining fully online during 2021-22, but nonetheless very challenging. Andrés, a Physical Education teacher, found that “[w]ith hybrid, what normally takes a few days takes an entire week.” Edith reported that it was difficult to give as much attention to the students who were at home “in the little squares” as to those who were physically in front of them. Many teachers placed a camera and microphone at the front of the room, but as Edith said, “You know my classroom is large and I like to walk around. Sometimes I would find myself at the back of the room and the students at home could not hear me.” Andrés argued that it was unfair to grade some students while they were at school and others while they were connected from home. Holidays and school events often affected cohorts unequally: “I had one group that was not at school for two weeks... We had to remember that today’s section was the one that missed the chest pass evaluation.” Some interviewees felt that hybrid teaching was worse than teaching completely online. Lourdes worried about “teaching in a hybrid model where everybody has to wear masks. How is that any better than doing it online, how is it any more effective?”

The move to hybrid teaching followed the school’s philosophy of acknowledging the social and emotional needs of the students. The staff believed the students needed to come to campus and have contact with other students. However, although the hybrid situation helped serve students’ emotional needs, it is interesting that teachers reported that academically the situation was no better than online teaching for student engagement.

Analysis and Discussion

The school community pulled together remarkably, with teachers, administration, and students doing their best in a difficult and unexpected situation. Measures were taken so that every student had at least the minimum equipment and bandwidth to participate in online classes. This is in contrast with the UPR-Río Piedras campus as a whole, where multiple undergraduate and graduate professors and students were “lost” from the teaching and learning process (Cert 53 SA, 2020-21), and also with the PR Department of Education, where many students and teachers lacked the basic equipment

with which to connect online (Mejía, 2020). A few remarkable successes were registered by teachers particularly skilled in technology, but in general the online experience was felt to be significantly inferior. Teachers eloquently described how ERT fell short: lack of student feedback and engagement were the principal complaints, compounded in those disciplines that teach embodied knowledge like Fine Arts and Physical Education. Hybrid teaching during 2021-2022 was characterized as “worse” than online by a number of teachers and fell well short of expectations, although the faculty agreed it was a necessary compromise between the need to maintain social distancing and students’ need for in-person schooling. Anecdotal reports strongly suggest a pandemic-induced decline in students’ overall motivation for school learning, which was felt during 2021-22. Student teachers were an important part of the process, both as a concern and as a resource for cooperating teachers.

As in many other communities, a lack of adequate devices and internet access was a problem, but UHS parents collectively were able to mobilize resources to meet the needs of each student. However, due to the instability of the Puerto Rican electrical grid, problems of fluctuations in internet service were reported more often. It is entirely possible, though, that internet access is just as much of a challenge in other places. For example, a study of adults living in a rural area of Canada found that nearly one-third of respondents reported being negatively impacted by a lack of internet access (Dow-Fleisener et. al, 2022). It is likely that Puerto Rico’s internet issues are the same as those in rural areas of the United States and Canada. It is clear from this study that this is a crucial issue. Respondents reported that internet problems made it impossible for students to fully participate in their learning and that this caused not only a decrease in learning but also a great deal of stress.

Strategies Learned

Despite the perception that younger generations have a greater mastery of technology, our study found that a major challenge to student engagement was the lack of *specific* technological skills required to navigate online and hybrid learning. This makes it less surprising that student engagement decreased significantly. Effective learning is the result of meaningful interaction in collaboration and powerful learning experiences (Harris, 2019; Roa, 2019). Rikkert et al. (2018) used the International Comparative Analysis of Learning and Teaching (ICALT) observation protocol to evaluate the effectiveness of teachers in 878 classrooms in six domains: safe learning climate, classroom management, clear instruction, activating teaching methods, learning strategies,

and differentiation. These six domains are pillars to the creation of effective learning in the classroom.

ICALT's six domains help us understand why student engagement decreased. Teachers at UHS strove to create a safe online learning climate, but collaborative learning experiences with peers were limited by the inability to work together in person. Classroom management seeks to keep all learners engaged, a far greater challenge online, where students face many more distractions and interruptions, not to mention technological issues. ERT highlighted the importance of nonverbal student feedback for clear instruction. Teachers emphasized methods like clearly stating lesson objectives and allowing extra time, but teaching learning strategies requires teacher-student communication which was much poorer online. Most participants in the study named differentiation as a strategy for ensuring student success, and teachers were more attuned to students' individual circumstances and needs during this critical time. Flexibility and compassion were indispensable during ERT.

Conclusions and Recommendations

Our findings indicate the need for universal student access to computers, training on the use of technology for academic purposes and the internet. This requires improvements to be made to Puerto Rico's electrical grid in case another pandemic or hurricane makes ERT necessary again, and schools should have contingency plans in place. There is also a need for increased student and teacher training in technology.

UHS, with its parental support and largely middle-class student population, was able to substantially bridge the "digital divide" within its school community, but the pandemic provided glaring evidence that technological inequality is something schools absolutely must address.

Online teaching is clearly suboptimal and is hardly anyone's preferred modality, but the instances in which it produced good, or even spectacular results, and the reasons why it didn't, shed light on the educational enterprise writ large: teaching occurs through human relationships, and these are best developed in person, with the full range of non-verbal cues and visual, even physical stimuli which are unavailable online. Online learning requires a degree of motivation which is far harder for students to maintain in their homes, especially when there are major domestic issues, like elders or younger siblings requiring attention, or internal conditions like depression, all of which the pandemic exacerbated. However, when teachers and students managed to "click" online, around the opportunity to share intrapersonal struggles or to create a new kind of artistic product, that motivation yielded excellent results.

The data from the study revealed that students would benefit from scaffolding and explicit virtual classroom expectations. During ERT, in addition to course content, students needed to learn how to learn online. We recommend that courses teach student behaviors necessary for successful participation, including how to use technology for academic purposes: digital calendars, creating virtual meetings, adding virtual backgrounds, and so forth, in case, for whatever reason, ERT becomes necessary again.

Four key take-aways:

1. Teachers and students demonstrated resilience in adapting to new technological modalities of instruction.
2. Although learning took place, online classroom interactions are poor substitutes for face-to-face interactions in the classroom.
3. UHS was able to bridge the digital divide, having access to community and institutional resources which many other schools lacked.
4. Teachers need to clearly communicate their expectations to students about how to be active participants in online learning situations.

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In Conclusion

Whether our schools originated as teacher training colleges, child study institutes, or laboratory schools, all of us continue to serve an essential mission in education – to persist in learning what high-quality educational experiences are and sharing the learning with others. We learn by innovating, experimenting, and reflecting, and we share our learning through teacher training, professional development, and research.

At a time when the educational world was ripped apart, when it felt like all we knew to be best for learners was seemingly undoable, our commitment to innovation and ingenuity paved the way for us to stay true to our mission. We learned that “what” we do did not need to change, just “how” we did it. Meaningful engagement, supportive relationships, and our ability to remain curious were still our core.

The beauty of this collaborative research project and publication is that it exemplifies the work of laboratory schools. The studies published here highlight that we did not sacrifice one stakeholder in support of another but found ways to engage all. We held true to our philosophies as we developed ways of working and living that supported students, families, and faculty. We welcomed student teachers and university partners at a time when many schools denied teacher trainees and outsiders access. We invited them to join us in our online classes and welcomed them into our spaces when we reopened, no matter the model used – hybrid, virtual or in-person.

We have asked important questions along the way. We interrogated virtual learning, an area of education not typical of lab schools. We wondered how teachers engage students in project-based learning in virtual spaces, how we create accountability for academic honesty, and if we were continuing to develop strong supportive relationships with students. We learned about gaps in our own teacher preparation and identified the need for learning digital platforms that become part of teacher training programs. We learned new ways of communicating with families that increased our ability to connect.

And perhaps one of the unique benefits of the pandemic was the journey into the child’s world outside of the classroom. We were invited into their homes to learn about their pets, their precious belongings, and their families.

I am deeply grateful to the community of lab schools worldwide for the shared learning. Although we rush to return to our beloved ways of being, the lab school community is considering the golden nuggets we need to carry with us, lest we forget the lessons learned. While the Global pandemic isolated us in some ways, it also brought us together and connected us in ways we had not previously been able to do. It joined us in the fight and in our curiosity about our shared struggle. As an organization, we now have increased opportunities to connect with other lab schools worldwide. We entered the pandemic together, and we are emerging from it together.

Jill Sarada

President

IALS

Call for Papers—IALS Spring Journal 2023

Information for Contributors

The *IALS Journal*, a refereed journal, publishes articles that contribute to the knowledge and understanding of laboratory and university affiliated schools and other significant educational issues. Most articles focus on research, innovation, or opinion. The subjects most often addressed are teaching techniques; administrative concerns; functions, history, and the future of laboratory schools; innovations in curriculum and program; teacher education; student growth and development; and philosophical topics. Rebuttals, responses, and book reviews are also considered for publication. We also welcome articles outlining innovative teaching practices in laboratory schools and columns celebrating exceptional laboratory schools or laboratory school educators. Unsolicited manuscripts are additionally encouraged for consideration, though preference is given to articles that link explicitly to laboratory schools. The Journal is published once a year.

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Length

The maximum acceptance length is twenty-five pages, including all references and supplemental material.

Format

The *IALS Journal* uses the most recent edition of the American Psychological Association (APA) *Publications Manual*, for style format. It is vital that all manuscripts submitted for publication conform precisely to this APA style. In addition, manuscripts should be submitted as google docs. This allows for easy sharing with our reviewers.

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Send your submission electronically to the editor of the journal at roberto.olmedal@upr.edu. Please submit your manuscript as an editable Google doc link. Submissions should **also include author's titles and affiliations, mailing addresses, and a 2-5 sentence author biography**. For consideration in the Spring 2023 volume of the journal, please submit by **February 28, 2023**.

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The *IALS Journal* reserves the right to make editorial changes in all manuscripts to improve clarity, to conform to style, to correct grammar, and to meet space requirements. All submitted articles are reviewed by the Editors to determine acceptability for publication in the *IALS Journal*. During the revision phase, authors should include information concerning their title, position, laboratory school, university name, location, etc. A brief author biography and school overview will be included at the conclusion of each article.

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