

EXPLORING THE USE OF PORTABLE CLASSROOMS IN CANADIAN SCHOOLS: INSIGHTS FROM NEWSPAPER REPORTS

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ABSTRACT. This study investigates the use and proliferation of portable classrooms in Canadian school districts through an analysis of periodical news sources. We analyzed 234 news reports from Canadian news outlets between 2010 and 2022. A two-cycle qualitative analysis revealed three themes: (a) drivers behind school districts' use of portable classrooms, (b) safety and comfort in portable classrooms, and (c) alternative strategies to alleviate accommodation issues aside from portable classrooms. Portables are often utilized to manage overcrowding, but they are often met with apprehension from local communities. This initial exploration of the situation of portables in Canada provides insights that could inform future research, policy, and practice.

UNE EXPLORATION DE L'UTILISATION DES CLASSES MODULAIRES DANS LES ÉCOLES CANADIENNES : APERÇUS TIRÉS D'ARTICLES DE PRESSE

RÉSUMÉ. Cette étude examine l'utilisation et la prolifération des classes modulaires dans les écoles canadiennes en analysant 234 articles de presse publiés entre 2010 et 2022 provenant de médias canadiens. Une analyse qualitative en deux cycles a fait ressortir trois thèmes : (a) les facteurs à l'origine du recours des districts scolaires aux classes modulaires, (b) la sécurité et le confort dans ces structures, et (c) les stratégies alternatives visant à atténuer les problèmes de capacité d'accueil autres que les classes modulaires. Les classes modulaires sont souvent utilisées pour gérer la surpopulation scolaire, mais elles suscitent cependant régulièrement des inquiétudes au sein des communautés locales. Cette première exploration apporte des connaissances susceptibles d'orienter les recherches, les politiques et les pratiques futures.

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Scholars have explored the impact of school environments on learning and well-being (Barrett et al., 2019; Branham, 2004; Chan, 2009; Crampton, 2009; Miles et al., 2011; Schabmann et al., 2016; Tanner, 2008; Uline et al., 2009), but the physical conditions of Canadian schools and their ability to meet the spatial needs of the community have not been sufficiently investigated in the academic literature. For instance, Riveros (2023) found that many schools in Ontario operate beyond their enrolment capacity and rely on portable structures for student accommodation. Portable classrooms are meant as temporary solutions in overcrowding situations, yet they often remain in use longer than planned (Booth, 2011; Riveros, 2023). This study aims to provide insights into the use of portable classrooms in Canadian jurisdictions by examining periodical news reports that document the deployment and use of these structures to address student overcrowding. The study is guided by the following research questions:

1. What do reports in periodical news outlets reveal about the use of portable classrooms to address student overcrowding in Canadian schools?
2. What are the most common concerns reported in periodical news outlets about the use of portable classrooms in Canadian schools?
3. What do news reports on the use of portable classrooms reveal about education policy and school planning challenges in Canadian school districts?

Due to the scarcity of academic research on portable classrooms in the Canadian context, the high cost of large-scale data collection, and the difficulty of obtaining district-level data, this study focuses on secondary data sources. We review periodical news reports on portable classrooms in Canadian schools, aiming to gain insight into the issues related to the use of these structures. The findings aim to stimulate discussion on the relationship between school overcrowding and the use, deployment, and reliance on portable classrooms. This investigation offers insights for researchers, administrators, planners, and policymakers regarding the challenges associated with the use of portable classrooms in Canadian school districts.

WHAT DOES PREVIOUS RESEARCH SAY ABOUT PORTABLE CLASSROOMS?

With an increasing recognition of the importance of school environments, there have been efforts to improve the layouts, materials, and placement

of portable classrooms (Branham, 2004; Chan, 2009). Currently, various types of portable classrooms are available, made by different manufacturers and offering diverse qualities, materials, amenities (such as washrooms), and durability levels. More advanced portables are eco-friendly, aesthetically more pleasing, and provide better lighting and air quality (Gore, 2012; Israelson, 2022). Nevertheless, the stand-alone prefabricated portable remains the prevalent solution for accommodating students in many school districts in Canada and the United States (Riveros, 2023), where the decision is often driven by cost efficiency (Filardo, 2016). Traditional stand-alone portables tend to have thinner walls with less insulation, noisier HVAC (heating, ventilation, and air conditioning) systems, and inadequate daylight (Gore, 2012).

Poor air quality and health-related issues are prevalent concerns in the literature on portables. Shendell et al. (2004) assessed air quality in portable classrooms in California by sampling 13 units from two schools, noting that user behaviour around doors, windows, and the HVAC system plays a crucial role in mitigating respiratory issues. A comprehensive study by Jenkins et al. (2004) aimed to identify problems related to mould, ventilation, temperature, chemical levels, and pesticides, emphasizing the need for high-quality, well-designed, and properly maintained HVAC systems. The study found that traditional classrooms had higher ventilation rates than portables, which suffered from noisy systems with weak filtration. The study also reported that low outdoor air exchange and poor lighting could affect the learning experience.

One study focusing on 266 schools in Houston, Texas, with diverse student populations and different levels of infrastructure quality, found that attendance rates were lower in temporary buildings and those requiring repairs or lacking adequate custodial services (Branham, 2004). The study concluded that the quality of school buildings is critical for providing quality education. Another study in North Carolina assessed the impact of overcrowding on reading achievement. It examined two policies: the use of portable classrooms and the implementation of a multi-track year-round calendar (McMullen & Rouse, 2012). This study found that these policies positively affected student achievement in severely overcrowded schools by mitigating the adverse effects of large class sizes. However, it noted that in moderately overcrowded schools, portables negatively impacted reading achievement.

As highlighted above, since portable classrooms address classroom-level concerns, issues have arisen regarding their connection with the other areas of the school. For instance, adding portable classrooms can lead to

congestion in common areas such as cafeterias and gyms (Branham, 2004). Moreover, Chan (2009) noted that commuting between portable classrooms and the main building can exacerbate student misbehaviour. These findings were confirmed by Shelton (2003), who interviewed 14 teachers in Oklahoma who taught in portable classrooms. The teachers reported that portables have some drawbacks, such as a sense of segregation and disconnection from activities in the main building.

Studies on portable classrooms have suggested that policy and funding issues have negatively impacted school infrastructure (Riveros & Zhou, 2025). As facilities become insufficient to accommodate growing populations, portable classrooms have become a widespread response in various Canadian jurisdictions, a trend also observed in the United States. A California Department of Health Services survey (Jenkins et al., 2004) found that one-third of Californian students attended school in portable classrooms. The study identified factors contributing to enrolment pressures, including enrolment fluctuations, policies to reduce class sizes in the 1990s, and mandates for cost-saving school designs. This led to a change in school funding to a per-pupil basis, which was accompanied by a reduction in budgets for renovation, construction, and expansion. The change in school funding models compelled school boards to rely on portable classrooms to accommodate students.

As described above, the scarce yet emerging literature on portable classrooms highlights critical concerns regarding their use and deployment. Unfortunately, little is known about the adoption of these structures in Canadian school districts. This study contributes to the Canadian literature on portable classrooms by identifying key issues discussed in news reports. The themes identified in the analysis provide insights that could inform future explorations on this topic.

METHODS AND DATA

This research was conducted by gathering data from news databases and analyzing it using a two-cycle qualitative analysis approach (Miles et al., 2014). According to Miles et al. (2014), “First cycle coding is a way to initially summarize segments of data. Pattern coding, as a second cycle method, is a way of grouping those summaries into a smaller number of categories, themes, or constructs” (p. 86). This approach allowed us to identify themes and analytical categories in the dataset (Fereday & Muir-Cochrane, 2006). The first cycle, also called *a priori* or deductive coding, requires organizing the data into general, pre-determined categories. The second cycle, also known as pattern or inductive coding, is the product of

a systematic reflection of the content generated through the first cycle. The themes that emerged from this two-cycle analysis offered insights to answer the research questions. A list of the codes by cycle and the resulting themes are included in Table 2. Due to space limitations, the discussion will focus only on the resulting themes.

Our study used periodical news reports as its data, which can be considered a type of secondary source. A common concern with using this type of data is the potential for bias to be introduced into the analysis. For instance, journalists can narrate or describe an account from their personal perspective and may choose to include or exclude certain aspects of the phenomenon in their reporting, which can introduce distortions in the analysis of the data. Aiming to minimize the introduction of potential bias and to increase the credibility of the analysis, we confirmed that each code included several references from multiple sources. Thus, once we defined a code, we explored the dataset several times, looking for confirmation of the code from different sources. This triangulation procedure (Patton, 2002) increased our confidence in the credibility of the codes.

Further, the research questions informed the selection of the sources and the data collection, which contributed to maintaining our focus on the phenomenon under investigation, namely the use and deployment of portable classrooms in Canadian school districts. This was important because the news articles that provided the data for this study were not written with our research questions in mind, which meant that defining codes was critical to maintaining the integrity of the analysis.

It should be noted that there are different approaches to qualitative analysis and coding, each with advantages and disadvantages. Miles et al.'s (2014) two-cycle model differs from other coding approaches, such as grounded theory coding. According to Thornberg and Charmaz (2014), when coding for grounded theory, researchers start with open coding; that is, they openly explore the data and organize it as discrete units of information under emerging categories. This initial examination can yield hundreds of codes, as the process is open, exploratory, and fluid. In contrast to this inductive approach, Miles et al. (2014) suggest that

one method of creating codes is developing a provisional “start list” of codes prior to fieldwork — *Deductive* coding. That list comes from the conceptual framework, list of research questions, hypotheses, problem areas, and/or key variables that the researcher brings to the study. (p. 81)

This is a legitimate and well-documented qualitative coding approach (Miles et al., 2014) that allowed us to systematize the data based on the

findings of previous research on portable classrooms. Thus, our first cycle used seven research-informed codes instead of the hundreds of codes that could have emerged through an open coding exercise.

The second cycle in Miles et al. (2014) is called “pattern coding” or “inductive coding.” It differs from traditional grounded theory coding in that it builds on the findings of the first coding cycle to identify patterns in the data through inductive inference. In contrast, most grounded theory coding uses a selective or focused coding approach consisting of identifying the “one core category, which refers to the most significant and frequent code that is also related to as many other codes as possible and more than other candidates for the category” (Thornberg & Charmaz, 2014, p. 158). It should be noted that grounded theory is not a monolithic methodology, and other techniques have been developed to follow the open coding cycle, such as axial coding (Strauss & Corbin, 1998), which requires the researcher to create focal categories informed by the initial codes.

Another important difference between the analytical approach proposed by Miles et al. (2014) and traditional grounded theory is that Miles et al.’s model is agnostic about grounded theory’s ambitious commitment to theory building. Instead, Miles et al. recommend drawing conclusions from the analysis based on the researchers’ reflections on the two-cycle coding. These conclusions can be presented as themes, conceptualizations, or ideas. While it is possible to develop theorizations from our data, our aim in this article is less ambitious. Following our research questions, we aim to offer descriptive accounts of a phenomenon (the use of portable classrooms in Canadian school districts) using a well-documented qualitative inquiry approach.

Data sources

We searched for Canadian news reports on portable classrooms from 2010 to 2022 in two databases, Factiva and Google News. This period was chosen because a preliminary search in Factiva indicated a significant increase in reports beginning in 2010, and 12 years is a substantial timeframe to assess the development of a social phenomenon. The search utilized keywords such as “portable classroom(s),” “mobile classroom(s),” “relocatable classroom(s),” and “demountable classroom(s).” We located 243 reports on portable classrooms from periodicals in nine Canadian provinces (Table 1) and saved them as text documents. Coding was a vital component of this project, as the 243 news pieces collected covered multiple topics; without coding, it would have been very difficult to extract

pertinent information, compile themes, and conduct the analysis. The analysis was conducted using NVivo 14.

The literature review and our preliminary reading of the data informed the code selection for the first cycle. The literature suggested that planning, funding, physical condition, and safety were common concerns regarding the deployment and use of portable classrooms in school districts. Therefore, we included codes to capture these issues. Also, the literature suggested that different social actors may have different perspectives and experiences in relation to portable classrooms, so we created codes to capture the accounts of teachers, students, parents, and administrators. Finally, we noticed that some news pieces offered the journalists' accounts of the phenomenon. Thus, we added a code to capture the journalists' commentaries (Table 2). These codes informed the second coding cycle.

The second cycle analysis produced the following five codes: the alternative strategies used by school boards to address overcrowding, the concerns about the length of use, the articulation of the reasons for deploying portables, the concerns about enrolment changes and population growth, and the physical and architectural aspects of portable classrooms (Table 2). As Miles et al. noted, the second cycle can elucidate causes and explanations of the subject matter. Our reflection on the second cycle codes yielded three critical themes: (a) drivers behind school districts' use of portable classrooms, (b) safety and comfort in portable classrooms, and (c) alternative strategies to alleviate accommodation issues aside from portable classrooms. Our analysis does not seek a theorization of the phenomenon of portable classrooms in Canadian school districts. After all, our study is not guided by grounded theory. The themes derived from our analysis of the data are intended to be heuristic devices aimed to inform future explorations of this issue.

TABLE I. Count of news reports on portable classrooms by province

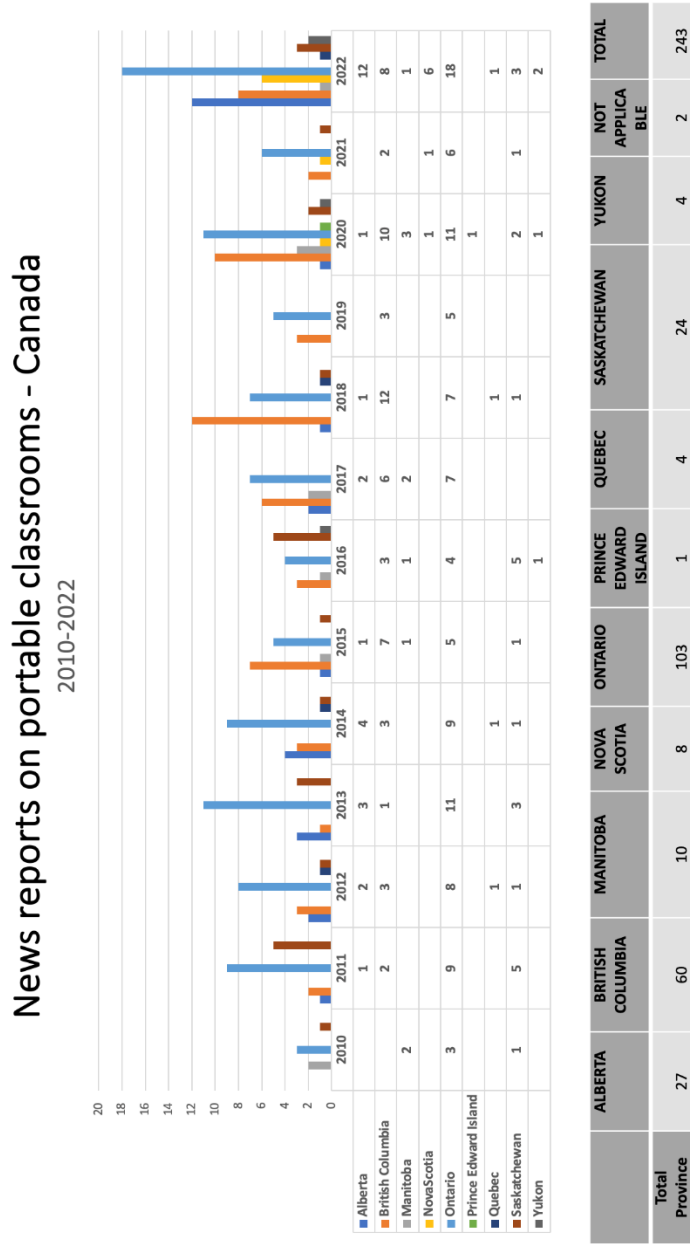


TABLE 2. *First and second cycle codes*

	Files	References
First Cycle Codes		
Teachers' and students' experience as users	23	29
Administrators' perspectives	75	111
Journalist commentary	33	41
Parents' perspectives	16	28
Planning and funding issues	74	111
Physical condition of portables	16	24
Safety concerns	52	59
Second Cycle Codes		
Alternatives to portables to address overcrowding	32	45
Length of use of portables	16	26
Articulating the reasons to install portables	55	88
Enrolment changes and population growth	46	64
Architectural aspects of portables	38	53

FINDINGS

Theme 1: Drivers behind school districts' use of portable classrooms

According to the reports, the decision to utilize portable structures in schools is driven by several interrelated factors. In many cases, the local school infrastructure is insufficient to respond to the rapid demographic changes in some cities. In other cases, changes to classroom size and composition rules require the creation off additional spaces. As student populations change and increase, school boards must address overcrowding in schools. As we will show in this section, the portable classroom becomes a fast and cost-efficient solution to these challenges, especially when funding for school construction is delayed by lengthy approval processes and reactive funding models. A problem arises when portable structures are not replaced, becoming permanent additions to school buildings.

Overcrowding

Overcrowding consistently emerges as the primary driving rationale behind the prevalence of portable classrooms. For example, Booth (2011) reported that surging enrolment added significant pressure on the school

system in the city of Surrey, British Columbia (BC). Most Surrey schools were using portable classrooms, with some schools employing more than a dozen, leading to over 300 portables citywide. By 2011, the district saw an enrolment exceeding 70,000 students, with an annual increase of approximately 1,000 students. This boom was linked to new housing developments. In response, Surrey requested an additional 2,700 spaces by 2020 to manage the student influx (Seal, 2016a). Despite the opening of a new school and expanding an existing elementary by 200 seats, Reid (2018) reported that portable classroom numbers in Surrey reached 333 units by 2018, accommodating over 7,000 students.

A similar situation has been noted in various cities across Ontario (ON). In Ottawa, for example, significant growth in the eastern part of the city put a strain on the school system. In 2011, a school had to add 12 portable classrooms after exceeding its capacity by 300 students, pending the Ontario Ministry of Education's approval for a new school (D'Amato, 2011). In Brampton, Bascaramurty and Alphonso (2014) observed that some new schools began operations with nine portable classrooms already on-site. Brampton, as one of Canada's fastest-growing cities, saw an 11% rise in elementary student enrolment from 2009 to 2013. Similarly, a school built in 2018 in Windsor, was facing overcrowding challenges shortly after opening due to outdated enrolment projections from 2011. The school had to add portable classrooms to accommodate more than 100 students in Grades 4 and 5 (Viau, 2018). In London, a school was operating at 200% of its capacity in 2021, just 4 years after opening, with 12 portable classrooms installed and with plans to add five in subsequent years (Lupton, 2021). Brantford faced overcrowding too. As Ruby (2022) reported, one school was operating at 178% capacity with projections of further increases due to residential development. Also, Israelson (2022) noted that by 2022, the Toronto District School Board was using a significant number of portable classrooms: 420 for students and an additional 100 for storage and organizational needs.

Delays and a reactive funding model

Insufficient funding and lengthy legal and operational processes are frequently cited as reasons for the prevalence of portable classrooms. Budgetary constraints limit the expansion or construction of new school facilities, forcing school boards to rely on portable classrooms for student accommodation. Maintaining these classrooms can also be costly. For example, the Hamilton-Wentworth District School Board in ON anticipated opening two new schools by 2020. However, due to funding uncertainties, schools already operating beyond capacity had to install

additional portable classrooms (Pearson, 2016). Booth (2011) made a stark comparison, likening the funding challenges to the Dutch boy using his finger to stop a flood, stating that it is like “plugging one hole, but the water is still rising” (p. A12).

Representatives from various school boards have expressed concerns about the lack of permanent solutions and the challenging process of obtaining approval for new buildings from education ministries. In BC, neighbourhood growth predictions should ideally be enough to secure the Ministry's approval for new permanent spaces. However, as noted by Knox (2018), the BC Ministry of Education's policy prioritizes current needs over projected ones. The report noted that the lengthy process of approving and constructing new school buildings has increased the reliance on portable classrooms. Bell (2018b) quoted the BC Education Minister stating that his office was working to streamline this process, aiming to shorten the timeframe for school construction from 7 years to 3.

Confirming this finding, a Surrey school district official described Surrey, BC, as a rapidly growing and affordable area to live but pointed out that new schools would not be built until there was an actual presence of students, which required schools to be at 110% capacity before a request for a new building would be considered, worsening the situation annually (Reid, 2018). Another official with the district emphasized the inadequacy of capital funding, remarking, “We aren't allowed to base what we need on upcoming development ... the government won't even look at building a new school until every school in the area is at 110% capacity” (Mui, 2015, para. 11). This trend of continuous growth, a norm in many large and mid-size cities in BC for the past 2 decades, has contributed to the backlog (Seal, 2016b). As noted by Culbert (2018), the BC Ministry of Education's hesitance to approve new constructions until schools are already over capacity, without accounting for projected growth, has led to increased reliance on portable classrooms.

In ON, delays in approving school expansions and construction have been identified as a primary reason for the prolonged use of portable classrooms (Lupton, 2021). A notable example could be seen in Hamilton, where the province rejected the request to fund the construction of a new school despite the board having acquired the land. Addressing this issue, the board's accommodation planner stated, “The Ministry doesn't give funding until there's an imminent need” (Pearson, 2016, p. 2). A news report about an overcrowded school in London (Lupton, 2021) revealed that while the board received funding for a new school, they had yet to find a suitable site. Parents expressed frustration, pointing out that

policymakers had not adequately planned for schools in new neighbourhoods.

Portable classrooms as a flexible response to enrolment fluctuations

In addition to delays in funding and approval for expansion and construction, another factor contributing to the use of portable classrooms is the possibility of future decreases in school population, rendering the construction of large schools cost-inefficient (D'Amato, 2011). Also, high maintenance costs for under-capacity schools can put them at risk of closure (ON Ministry of Education, 2018). Consequently, some schools are intentionally designed as hybrids, combining permanent structures with portable classrooms. This design allows for the addition or removal of portables as the student population fluctuates. The primary rationale behind this model is to keep operational costs as low as possible. In some instances, the use of portable classrooms is preferred over other solutions, such as relocating students to different schools. Kline (2020) reported that in Kootenay, BC, the decision was made to add four portable classrooms to two schools operating at 106% and 107% capacity instead of moving the excess students to other schools. In Ottawa, ON, a proposal to change a school boundary was rejected due to concerns about the safety of children crossing busy streets. In this case, the school board chose to alleviate overcrowding by installing portable classrooms (D'Amato, 2011). Similarly, McPhee (2022) reported that in Nova Scotia, families advocated for the addition of portable classrooms to their local schools as a preferable alternative to sending their children to a different school located 45 minutes away.

Another reason frequently cited for installing portable classrooms is flexibility (Bell, 2018a). For example, the Waterloo Region District School Board in ON reported in 2014 that they had a total of 335 portable classrooms across their region. The board noted that these portables were necessary to meet various needs, including providing spaces for children to complete their homework ("Need a Little Extra Storage Space?," 2014). Additionally, the use of portable classrooms has been expanded to accommodate other non-instructional activities within school premises. For example, in the Greater Victoria School District in BC, the launch of an out-of-school care program led to the request for portable classrooms at a Saanich school. Bell (2018a) quoted an official with the district saying that they sought four portable classrooms, referred to as "studios," to support before- and after-school care programs.

Class size reduction

Another reason discussed in the periodicals included the Supreme Court of Canada's decision to restore the 2002 class size and composition levels in BC schools, which resulted in reduced class sizes throughout the province (*British Columbia Teachers' Federation v. British Columbia*, 2016). The court's decision required school boards to add more classroom space within each school (Bell, 2017). A report from Surrey highlighted that due to the reinstated class size and composition levels, the school board had to create an additional 168 learning spaces. To meet this challenge, the board installed portables and converted some common spaces into classrooms. This led to the loss of important services like computer labs (Reid, 2017). In a similar vein, Bell (2018a) indicated that the Greater Victoria School District Board of Education added portable classrooms to comply with the requirements arising from the court's decision.

Funding and planning issues

Using portable structures for extended periods may generate negative perceptions about public schools, undermining local support for public education (Riveros, 2023). Findings from this study align with observations by Riveros & Zhou (2025) and Mackenzie (2017) who suggested that increased levels of disinvestment in educational infrastructure and the absence of effective planning and funding policies undermine the egalitarian purpose of public education. These policy choices may lead to unintended consequences, such as community disconnection and missed or reduced educational opportunities.

The findings indicate that in some growing municipalities, some schools have been operating beyond their capacity since they opened their doors (Bascaramurty & Alphonso, 2014; Viau, 2018). While school boards consider future growth in their accommodation plans (Thames Valley District School Board, 2022), ministries tend to fund capital projects on a current-needs basis. To address this discrepancy, some school boards have advocated for a proactive approach, suggesting the construction of new schools in high-growth areas in advance, considering other solutions before resorting to portable classrooms, and emphasizing the importance of flexible spaces, such as "raw" areas that can be expanded as needed (Shaw et al., 2018). Stakeholders referenced in news stories from several jurisdictions suggested that a headcount-based funding formula puts educational spaces under pressure. As Mackenzie (2017) proposed, a relevant funding formula should be school-centred, with specific considerations and differential criteria for small schools. Mackenzie emphasized that this revised formula should also account for various cost

factors, including labour costs, climate, facility age, and market conditions. Additionally, geographical location should be a factor considered when determining funding allocations.

The reports indicate that the process of building a new school in many Canadian school districts is lengthy, often taking up to 5 years (Bell, 2018b; Lupton, 2022). This extended timeline involves several challenges. For instance, school boards are responsible for finding suitable sites for new construction projects (Lupton, 2021). This process can be time-consuming and add to the overall project duration. Furthermore, once a site is secured and a project is approved, the actual construction phase tends to take longer than initially anticipated, sometimes extending beyond the expected completion date (Bascaramurty & Alphonso, 2014). Construction delays can exacerbate overcrowding and trigger the use of more temporary facilities. Recent studies by Riveros (2023) and Riveros and Zhou (2025) found that in ON between 2010 and 2020, 45% of portables were kept between 5 to 10 years, exceeding the assumed timeframe for building a school (2 to 4 years for ON). These challenges can be addressed with better coordination between city development planning and school boards in allocating suitable sites for new schools, which can expedite the site acquisition process. Being proactive in school construction by anticipating growth in the student population can help reduce the time students spend in temporary facilities like portable classrooms and hotel schools. Furthermore, utilizing modern construction methods such as drywall, tilt-up construction, and modular panels can accelerate the construction process while also being more cost-efficient than traditional methods.

Theme 2: Safety and comfort in portable classrooms

The second theme identified in the analysis reveals the connection between the spatial attributes of portable classrooms and the students' overall educational experience, encompassing both their physical and socio-emotional well-being.

Encroachment on recreational, green, and public areas

As previously mentioned, the presence of portable classrooms often encroaches upon green areas, recreational spaces, and sports facilities on school grounds, potentially impacting the promotion of healthy lifestyles among students. Public and common areas, such as washrooms and libraries, experience increased pressure due to a higher number of students sharing these facilities. A local education activist from Surrey succinctly summarized this concern, stating, "The washrooms are packed, the gyms

are packed, there are staggered schedules, causing students to fall through the cracks” (Seal, 2016a, para. 10). The impact of portable classrooms is not limited to indoor common spaces; they also affect crucial outdoor spaces. A school administrator in Brampton, ON, discussed how portable classrooms strain various aspects of the school, including reduced play space, decreased gym time, and the need for multiple classes to share sports and recreation spaces simultaneously (Bascaramurty & Alphonso, 2014). As Branham (2004), Chan (2009), and Schabmann et al. (2016) noted, this encroachment on common and recreational areas may have implications for students’ educational experiences and outcomes.

Several reports have highlighted how portable classrooms occupy outdoor spaces, often necessitating the removal of trees and foliage from the school grounds (Mui, 2015; Simpson, 2022). For instance, in Victoria, BC, the introduction of portable classrooms at a school resulted in the reduction of basketball courts from three to just one (Shaw, 2018). In Ottawa, ON, a report mentioned that accommodating an additional portable required rearranging existing ones, highlighting issues related to both poor planning and limited space (D’Amato, 2011). Additionally, Kupfer (2019) reported that a school in the Ottawa-Carleton District Board had to shorten its sports field from 400 meters to 360 meters due to portables, with the possibility of needing even more portables in the future. The report also mentioned an online petition by concerned parents opposing the placement of portable classrooms on the sports fields of a school known for its high-level athletic programs.

Isolation

A sense of isolation is another significant concern raised by families, students, and teachers about their experiences in portable classrooms. Stakeholders in Chilliwack and Surrey, BC, have noted that students in portable classrooms often feel detached from the broader school community, potentially affecting their overall educational experience (Knill, 2018; Seal, 2016b). In ON, a report from Attawapiskat included a poignant quote from a student: “My education is all about isolation: Isolated portable, isolated community, minimal resources, and minimal funding” (King, 2011, para. 9). This feeling of isolation is not confined to students only; teachers can also feel isolated when working in portable classrooms. A teacher in Brampton, ON, shared her challenges, including the daily task of carrying two buckets of water to her portable for cleaning the chalkboard and tidying up the classroom (Bascaramurty & Alphonso, 2014). Reports from Windsor and Hamilton, ON (MacIntyre, 2021; Viau, 2018), highlighted difficulties in accessing washrooms or other essential

facilities, raising concerns among parents about exposure to cold during winter and interactions with strangers.

Poor physical conditions

A significant and distressing concern highlighted in the news is the poor physical condition of portable classrooms, posing a serious threat to the well-being of students and teachers. An opinion piece in the *Waterloo Record* (King, 2011) focused on the dire conditions of schools serving Indigenous students in Attawapiskat, ON (King, 2011). In this community, students attended classes in portable classrooms after the local school closed in the year 2000 due to ground contamination by diesel fuel. The author described these students going to school in mouldy, unheated portables infested with mice and lacking proper gym or library facilities. Unfortunately, this situation is not unique. The Parliamentary Budget Office in 2009 reported that only 49% of First Nations schools were in good condition (King, 2011). A report from the *Waterloo Region Record* ("Need a Little Extra Storage Space?," 2014) also highlighted the substandard state of portable classrooms, which were worn out and poorly received by parents. These structures, initially intended for temporary use, had been in use for much longer than anticipated. In London, ON, parents raised concerns about mould in a portable classroom (Lupton, 2019). In Oakville, ON, a parent expressed concern about their daughter's classroom being too cold at 18 °C, negatively impacting her learning (Garbutt, 2015). Gerding (2022) reported that in Okanagan, BC, parents voiced their worries about the increasing number of portable classrooms and the inconvenience of limited access to proper washroom facilities.

In Alberta, Mertz (2018) reported on stakeholders' concerns about the prolonged use of portable classrooms. Issues like excessive heat, noise, and poor ventilation were associated with headaches, drowsiness, flushing, and nausea in students, which are seen as detrimental to the students' ability to learn. A teacher in Winnipeg, Manitoba (MB), recalled her time in portable classrooms, describing her class as having an unpleasant odour with stale air (Macintosh, 2020). In Saskatoon, Saskatchewan (SK), a school principal pointed out the differences between portable classrooms and the main building: They were physically separate, making it inconvenient to move between facilities, and tended to be colder than classrooms in the primary building (MacIntyre, 2021). This report highlighted critics' concerns about using portables as a makeshift solution to overcrowding, citing issues like cold temperatures and the perception that portables make schools resemble trailer parks.

Theme 3: Alternative strategies to alleviate accommodation issues aside from portable classrooms

Discussions in news articles about portable classrooms have revealed the various strategies school boards and communities employ to address school overcrowding. These strategies include busing students to out-of-boundary schools; redrawing school boundaries; merging English and French immersion schools; using space temporarily in other schools, known as “hotel schools”; and lobbying the government to request permanent solutions such as advocating for changes in funding formulas. Bascaramurty and Alphonso (2014) indicated that overcrowding in schools has led some parents to seek alternatives, such as withdrawing their children from the public system and paying over \$30,000 a year for private schooling.

The redistribution of students over location and time has been a common practice. A report from Surrey, BC, noted that to alleviate the strain on school facilities, high school students were required to attend in separate shifts (Booth, 2011). Multiple solutions were explored in Brampton, ON, which had a surge in population. Bascaramurty and Alphonso (2014) revealed that in addition to using portable classrooms, the school board undertook boundary redraws and introduced the concept of hotel schools. These hotel schools were intended to house students while their regular schools underwent renovations temporarily. Despite their temporary nature, these hotel schools remained in use for many years, leading to various issues. Students often had to be bused from considerable distances, resulting in concerns about the loss of community and interruptions to their social lives.

Sharing buildings with coterminous boards and repurposing programs and spaces have been among the approaches to address enrolment issues. A report indicated that in Quebec (QC), a French school board shared a building with an English board through a 3-year collaboration agreement (Branswell, 2014). In Surrey, BC, aiming to address overcrowding, the school district decided in 2016 to reduce the French immersion program and to change catchment boundaries (Seal, 2016a). In Montreal, QC, Wilton (2018) noted that certain schools had repurposed their art and music rooms into classrooms while awaiting the construction of new schools. Some of these new schools were established through partnerships with other institutions, such as the YMCA and Concordia University.

Various approaches have been adopted to respond to the growth of residential areas across Canada. Martin (2017) interviewed a superintendent from a local school division in Winnipeg, MB, who

discussed the challenges resulting from unexpected growth due to new residential subdivisions. Schools were forced to rely on portables and convert non-instructional spaces into classrooms to accommodate the increasing demand. Furthermore, many students in these new residential areas had to be bused. In ON, Learment (2022) reported that a school board planned to include a cautionary statement for prospective homebuyers in new subdivision agreements. This statement would inform them about the lack of a guaranteed new school in developing neighbourhoods and the use of temporary solutions like portables, hotel schools, and community schools located outside the immediate area. In response, the city's mayor emphasized that the responsibility for constructing schools and providing student accommodation lies with the ON Ministry of Education and the school board, and requested the removal of the warning.

It is worth noting that even though our search focused exclusively on news articles that discussed portable classrooms in Canadian schools, many reports included references to alternative strategies to deploying these temporary facilities. This suggests that school boards are proactively seeking options to avoid dependence on portable classrooms. While some of these strategies may look promising, further research would be required to determine their success.

TOWARDS A PROACTIVE SCHOOL PLANNING MODEL

This article has offered insights into the use of portable classrooms across Canada, drawing from a substantial number of news reports between 2010 and 2022. The study identified several drivers that compel school boards to rely on portable structures and highlighted common concerns regarding their use and deployment. Furthermore, by examining the various strategies school boards used to address the students' accommodation needs, the challenges become more apparent. Our analysis suggests that portable classrooms are often viewed as a less-than-ideal solution for accommodating students. They are typically seen as a temporary, reactive, stopgap measure and described as a "band-aid" approach or a "Dutch boy finger" fix. This perception is based on the limited success of portable classrooms in providing acceptable noise levels, air quality, and comfortable temperatures, all of which has the potential to impact the well-being and learning experience of students and staff. Additionally, the limited access to essential amenities like washrooms raises concerns about equity and accessibility. Portable classrooms can also encroach upon common areas, limiting learning and social opportunities, notably by

occupying space on sports fields and adding more students to already crowded common areas.

The relegation of the issues of school capacity and student accommodation to the realm of education management has created a sense that these issues are technical and bureaucratic endeavours. This oversight has stopped many educational researchers from asking fundamental questions about the relation between educational infrastructure and educational opportunity. In this article, we aimed to resituate these issues as legitimate educational concerns that deserve critical examination.

The discussions presented in this study serve as a catalyst for further exploration into several crucial areas related to student accommodation and overcrowding, as well as education policy and funding. These insights call for deeper investigations to address the urgent accommodation needs in Canadian schools, and to improve current and future educational infrastructure. Some key questions and areas for future research may include:

- How to reduce the dependence on portable structures?
- How can provincial funding formulas address school accommodation issues in proactive way?
- How can the relationship between municipal planning and school planning be strengthened?
- How do provincial and municipal politics influence funding for school construction and expansion?

Answers to these questions can provide additional insights and recommendations to policymakers, architects, planners, and communities to improve the process of accommodating students in Canadian schools.

CLOSING REMARKS

In this study, we leveraged news sources to obtain insights that would otherwise be difficult to obtain due to logistical limitations. For example, it could be costly and time-consuming to survey or interview different stakeholders in school districts across the country. When academic research on a social phenomenon is limited, secondary sources, such as news reports, become useful for exploratory analysis. Besides its cost-effectiveness, an analysis of news reports about a social issue may allow the researchers to cover a larger geographical area, which may increase the transferability of findings.

While an analysis of reports in periodicals may not yield grounded insights about the use of portable classrooms in school districts, it provides an initial or exploratory overview of the issue that could be investigated in subsequent research through the empirical analysis of primary sources. At a more fundamental level, this study brings attention to issues associated with student overcrowding and accommodation in Canadian school districts, a problem that the academic literature has long dismissed. Despite the lack of interest in these questions in academic circles, our findings demonstrate that this issue is a critical concern for local communities.

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