

**Thinking Outside the Lunchbox:  
Analyzing the Effects of the Reverse Lunch Schedule on  
Student Nutrition and Performance**

**By Peggy Antifaeff and Janet Porowski**

“You can’t go out to play until you finish your supper.” How many times have you heard or made a statement like that? This phrase is indicative of an ingrained ritual of eating first and playing later. In schools, it has resulted in students eating their lunch first and then going outside. For decades, this schedule has remained unchanged and unchallenged as the natural order of elementary schools. Has the time come for a change? This is the question that is being asked as schools begin to investigate alternative lunch schedules as a way to increase student nutrition and student performance.

In this article we share the results of our inquiry into the reverse lunch schedule and its impact on student nutrition, behaviour and academic performance, as well as the issues that surround implementation. We hope the conclusions and recommendations will help inform educators who are considering implementing the reverse lunch model.

### **Current Literature**

The variety of school lunch schedules being implemented across Canada and the United States highlights administrators’ quest for the “silver bullet” that solves all student nutrition problems without increased budgets or reduced academic performance.

The types of schedules being tried range from the “balanced school day” with two lunch periods each day to the complete elimination of a lunch break. In the midst of all of this experimentation, the **reverse lunch schedule**, where students play first and eat second, is gaining in popularity.

There are two major concerns regarding the effects of the conventional school lunch schedule on eating habits and nutrition. One is the potential for students to “under-eat” and the other is the potential for students to “overeat” in their rush to be first on the playground. Getting outside to play is the first priority for many children, so gobbling their food is not uncommon and kids in a hurry may only eat part of their lunch (Yara, 2005). Teachers and administrators have also noticed that students lured by play time often choose less nutritious items from their lunch that are quick to “eat and run” (“Reversing Recess,” 2003). At the other end of the spectrum, the lure of the playground and short eating period may cause students to overeat. Overeating is a negative effect of eating rapidly and can contribute to obesity as children are conditioned to eat at a faster rate and do not rely on normal cues related to being full (Buerger, Bergan, Knutson, & Lindaas, 2002). Clearly, both of these eating habits are of concern as health and nutrition moves up the priority list in schools.

Fortunately, the literature suggests that the reverse lunch schedule may be a worthy alternative as it improves student nutrition in two ways. This schedule gives

children more time, or the perception of more time, to eat their lunches because they do not feel as rushed. The reverse school lunch schedule also improves student nutrition, as children are able to build their appetite for the healthier items in their lunches by playing before they eat (Hetzner, 2005).

A secondary benefit of the reverse lunch schedule is its effect on student behaviour. Principals and teachers in a Montana study of reverse lunch routines noted decreased behavioural problems on the playground, in the lunchroom, and in the halls. According to Yara's (2005) article, students are more focused and ready to learn in the afternoon when the reverse lunch schedule is in place. Delisio (2005) also reported that one of the schools in the Montana study experienced a dramatic shift in student behaviour following the change to a reverse lunch schedule. It is apparent that advocates of the reverse lunch schedule in elementary and middle schools agree that eating lunch after play can "provide a calming buffer between frenetic play and quiet classroom work" (Hetzner, 2005, p. 1).

Additionally, under the reverse lunch schedule it becomes apparent that good nutrition plays an important role in learning (Hetzner, 2005) and many studies show a direct link between nutrition, physical activity and academic performance (Potts-Datema, 2005). The National School Lunch Program reports that eating nutritious, balanced meals during childhood can provide benefits in terms of health, well-being, and academic achievement. Additionally, coupling physical activity with healthful eating helps to optimize physical and cognitive development (Guthrie & Buzby, 2002).

Making change to a traditionally untouched schedule does not come without some challenges. There may be resistance to change, but groups of teachers and members of the school community who realize the need for change will be better able to overcome the long-standing culture surrounding lunch schedules. Determining how much consultation is necessary to make a good decision for a particular school community is another challenge faced by educators. Fear of change, stakeholder resistance, and fear of school community reprisals can make this innovation risky. With this study, however, we provide current research results and recommendations that may help schools make informed decisions as to the advisability of adopting the reverse lunch schedule.

### **Research Methods**

For this inquiry, we identified two K-7 public elementary schools in Langley, British Columbia during the winter of 2006. These schools were in different stages of implementation of the reverse lunch program; one was in its third year while the other school was in its first year of implementation. We based the findings of this study on the data collected from staff questionnaires, administrator interviews, and school data. We surveyed all staff members at both sites and received a 70% return rate from a total of 69 questionnaires, with good representation from all staff roles. The questionnaires included 15 statements rated on a Likert scale and three open-ended questions identifying strengths and weaknesses of the Reverse Lunch Schedule, as well as challenges with

implementation. Additionally, we interviewed one administrator at each site where we received valuable insight into the effects of a reverse lunch schedule.

### **Specific Findings**

The findings of our study fell into four categories: effects on nutrition, effects on behaviour, effects on academic performance, and issues of implementation.

#### **Student Nutrition**

We found strong support for the reverse lunch schedule in both schools included in our study. While there were mixed opinions about the nutritional benefits of the reverse lunch schedule, the educators, parents, and support staff, overwhelmingly endorsed the change. One major theme that was represented in many of the participant comments was that students enjoy a calmer lunch period and are less rushed when they eat. Both administrators and teachers thought this placid environment and unhurried eating time was better for nutrition.

The school survey also showed that parents noticed their children are eating more of their lunches and they commented that their children were not feeling as rushed to eat. Students reported that they enjoyed the stress-free eating period and were taking more time to actually eat their lunches instead of feeling anxious about getting outside to play. Consequently, parents, students, and teachers remarked that students had increased energy and alertness in the afternoon with the reverse lunch schedule. While not all respondents were happy with the schedule change, it is important to note that the concerns raised by some stakeholders encourage “tweaking” the program rather than reverting to the conventional lunch schedule.

#### **Student Behaviour**

With the reverse lunch schedule, the eating period created the transition from play to work and appeared to help many children calm down before the start of afternoon classes. Both schools in this study included an opportunity for students to choose indoor or outdoor supervised activities during the play period. They also arranged the lunch schedule so that teachers supervise the eating period when the children returned from playing. In the survey, many staff members noted improved student behaviour as a benefit of the reverse lunch schedule. A reduction in playground conflicts was also noted by more than 73% of the staff, and both administrators noticed a reduction in the number of students being referred to the office for discipline at the end of the lunch period. The reduction in discipline issues coupled with improved student attentiveness in the afternoon was perceived to create a more effective learning environment.

#### **Student Academic Performance**

Our study revealed opportunities for improved academic performance but our participating schools did not have any assessment data that would support such a claim.

Indeed, the qualitative data gathered in our study suggests mixed reviews on the potential effects of the reverse lunch schedule on academic performance. Some educators agreed with the literature that suggests student academic performance improves with a reverse lunch schedule because students are more focused and have better nutrition. Others argued that the extended lunch playtime and teacher supervised eating period creates difficulty with the school schedule and negatively impact student learning through the loss of instructional time.

One administrator responded to the concern over loss of instructional time by agreeing that the reverse lunch program makes the job more difficult for support teachers, but said that instructional time is not actually lost. Instead, students are having music appreciation during the eating period, nutrition instruction is more authentic, and less time is lost to issues of student discipline. While school assessment data on improved academic performance was not available, more than 75% of staff members surveyed reported their perception that academic performance is improved through increased productivity with the reverse lunch schedule. At worst, no negative effects on academic performance have been noted, but further studies in this area are needed before any claims can be substantiated.

### **Implementation of the Reverse Lunch Schedule**

As with any significant programming or scheduling change, school administrators will face some skepticism. One way to reduce potential resistance to the reverse lunch schedule is to inform the students and parents well in advance of the schedule change with the understanding that it is a trial experience and will only continue if there is stakeholder support. In both school-conducted surveys, the support to continue the reverse schedule was strong but the survey process also illuminated some areas that needed further attention. The administrators explained how the reverse schedule is not static and needed continual modification.

One concern for administrators that also requires flexibility and willingness to change was the need to introduce the reverse lunch schedule to staff members who are new to the school. This challenge was evident in the interview and questionnaire comments from the school that has been following a reverse lunch schedule for three years. Previously, small staff turnover allowed for continued support of the reverse lunch schedule but with recent significant staffing changes, the issue of staff buy-in posed a greater difficulty. This concern draws attention to the continual need to evaluate the schedule and make modifications that improve the experience for all.

We identified staff buy-in as the main contributing factor to the successful implementation of a reverse lunch schedule and adopting the schedule on a trial basis to start was strongly recommended by the administrators. Both schools in our study felt that the reverse lunch schedule needed to be coupled with social responsibility programs that addressed noon-hour concerns. They also recommended that each site tailor the program to meet individual school needs with continual “tweaking” of the schedule to ensure that what is best for children guides changes to practice.

## Conclusions

Our findings led us to several conclusions and recommendations for administrators and districts considering implementing a reverse lunch schedule.

### **1. Improved student nutrition is perceived to be a positive effect of the reverse lunch program as is the potential beneficial effect on student academic performance.**

In our study, staff, parents and students identify nutrition as one of the most noticeable benefits of the reverse lunch schedule. This schedule allows the eating period to be restructured to eliminate the pressure to eat quickly or eat less, stimulate student hunger by playing first, and allow teachers to supervise the eating period. Potential benefits for student academic performance seem likely based on knowledge of the impact of nutrition on learning but have yet to be shown conclusively as a result of the reverse lunch program.

### **2. Improved student behaviour is perceived to be a positive effect of the reverse lunch schedule.**

Students solve more social problems independently, fewer playground incidents are occurring, and fewer discipline concerns are being referred to the office. The calming transition from play to work created by the more structured eating period helps to settle the students and lends itself to improved student behaviour.

### **3. Implementing a reverse lunch schedule may be most effective when there is staff commitment and the obstacles to change are considered openly and addressed on a “case-by-case” basis.**

Obstacles to change may include satisfaction with the conventional lunch schedule, fear of the unknown effects, a lack of motivation to participate in the change, or difficulty overcoming the longstanding culture of conventional lunch programs. Having a purpose for the change to a reverse lunch schedule makes it meaningful and it is important to capitalize on staff interest to support the momentum of change. Resistance to change may be minimized by instigating a trial period after which stakeholders will have the opportunity to provide feedback. Educators may expect some challenges with implementation and must be willing to work together to design flexible solutions that answer individual concerns.

## Our Recommendations

- Elementary schools should consider implementing the reverse lunch schedule in order to improve student nutrition and behaviour.
- School administrators should not mandate a reverse lunch schedule for all students or classes within a school that has chosen to implement this schedule. In situations where a staff member is strongly opposed to the schedule it may be best

to allow for some flexibility in the school lunch structure. Additionally, individual students or whole classes with specific needs related to eating may need to have a modified schedule.

- Districts should consider reverse lunch schedules as an option for all schools but the schedule should not be mandated to all schools.
- Parents should be educated in how to pack lunches differently and children should be taught how to make wise food choices and pace the eating of their lunches appropriately.
- We recommend further studies on the effects of a reverse lunch schedule on academic performance.

During the course of our research we discovered that an increasing number of schools are implementing the reverse lunch schedule in the Langley School District as well as other districts in British Columbia. This development is an indicator of the need for change and recognition by educators that what once worked in the past may not be working as effectively now. We hope that this study will help inform educators who are revisiting their school lunch schedules with the aim of providing a better educational experience for the students in their care.

### References

- Buergel, N. S., Bergan, E. A., Knutson, A., & Lindaas, M. A. (2002). Students consuming sack lunches devote more time to eating than those consuming school lunch. *Journal of the American Dietetic Association*, 102 (9), 1283-1285.
- Delisio, E. R. (2005). Recess before lunch can mean happier, healthier kids. *Education World*. Retrieved November 4, 2005 from [http://www.educationworld.com/a\\_admin/admin/admin389.shtml](http://www.educationworld.com/a_admin/admin/admin389.shtml)
- Guthrie, J. F. & Buzby, J. C. (2002). Several strategies may lower plate waste in school feeding programs. *FoodReview*, 25 (2), 1-9.
- Hetzner, A. (2005). Schools try recess first, lunch later; Educators are finding that students are more likely to eat better after playing, although it can pose a logistical headache. *The Milwaukee Journal Sentinel*, p. B1. Retrieved December 16, 2005 from <http://global.factiva.com/ha/default.aspx>
- Potts-Datema, B. (2005). The bottom line: Improving nutrition and health. *School Business Affairs*. Retrieved December 23, 2005 from [www.asbointl.org](http://www.asbointl.org)
- Reversing recess, lunch may improve health: One school juggles schedule to improve kids' health. (2003, August 15). The PittsburghChannel.com. Retrieved

November 4, 2005 from  
<http://www.thepittsburghchannel.com/news/2409474/detail.html>

Yara, G. (2003). Recess-before-lunch agenda working well. *Ahwatukee Foothills News*. Retrieved December 9, 2005 from  
<http://www.ahwatukee.com/afn/education/articles/05907a.html>

### **About the authors:**

Peggy Antifaeff is a primary teacher at Harry Sayers Elementary in Abbotsford and Janet Porowski is on educational leave from her intermediate teaching position at Willoughby Elementary in Langley. Peggy and Janet are students at the University of British Columbia where they are completing master's degrees.

Peggy Antifaeff: [pantifaeff@hotmail.com](mailto:pantifaeff@hotmail.com)  
Janet Porowski: [jporowski@telus.net](mailto:jporowski@telus.net)

This article is based on P. Antifaeff and J. Porowski's (2006) *Thinking Outside the Lunchbox: Analyzing the Effects of the Reverse Lunch Schedule on Student Nutrition and Performance* unpublished paper, Educational Administration and Leadership Program, Department of Educational Studies, Faculty of Education, University of British Columbia, Vancouver, B.C. 54 pp. An electronic copy of the complete study is available from the authors.