

# Interlake High School

BELLEVUE, WASHINGTON

*Ensuring that all students reach their highest potential in math*

*Over the past few years, Washington State's Bellevue School District, serving over 16,000 students, has earned national attention for exceptional student achievement. Since 2003, the district's high schools have been recognized by Newsweek as being among the highest-ranking schools in the country.<sup>22,23</sup> The district's standards, most notably in math, have always been high, exceeding those required by the state. Recently, the Bellevue School District set its sights even higher by implementing an academic program with internationally agreed upon standards.*

Only a decade ago, Interlake High School was the lowest-performing school in the Bellevue district. As Bellevue is an open enrollment district, Interlake parents and community members knew they needed an academically rigorous program to turn the school's performance around and draw students to the school. In 1997, Interlake implemented the prestigious International Baccalaureate (IB) Degree program and in 2003 added the Advanced Placement program. Together, these two programs are having an increasingly positive influence on student achievement. Over the past four years, Interlake has improved the performance of its tenth grade students on the state's exam, the Wash-

2006-07 School Profile<sup>24</sup>

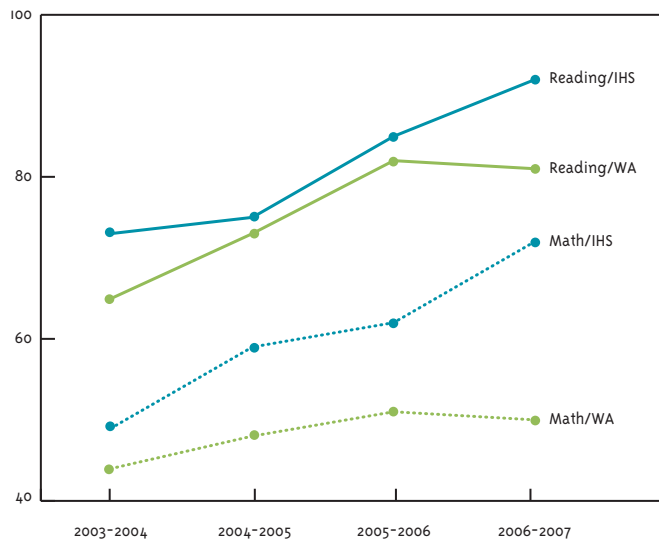
Black	4%	Enrollment	918
Asian	23%	Grades served	9-12
Hispanic	12%	Free/reduced lunch	24%
White	57%	Graduation rate	80%
		Did school make AYP?	Yes

*"At Interlake, we believe every kid is a math student."*

*- Sharon Collins, Principal  
Interlake High School*

ington Assessment of Student Learning (WASL), outperforming the state average. In 2003–04, less than half (49 percent) of Interlake’s students scored at proficient or above in math while in 2006–07, almost three fourths (73 percent) scored at proficient or above (see Table 1 for details).

**TABLE 1. STUDENTS SCORING PROFICIENT OR ADVANCED ON THE WASL\* (READING AND MATH), INTERLAKE HIGH SCHOOL (IHS) VS. WASHINGTON STATE (WA) 2003–2007<sup>25</sup>**



\* Washington Assessment of Student Learning – tenth grade level.

### COLLEGE-PREPARATORY MATH COURSES FOR ALL STUDENTS

Access to challenging high school courses has more impact on the likelihood of a student successfully completing a bachelor’s degree than any other factor.<sup>26</sup> At Interlake High, the combination of its IB and AP programs provides students with a number of rigorous course options. Equally important is that these high-level courses are available to the entire student body. What’s more, the number of students participating in these courses has steadily increased over the years, as all students at Interlake are encouraged to take high-level classes, particularly in math, regardless of their past academic performance.

While recent studies have identified Algebra II as the “gatekeeper” for college entry, Interlake has set the bar even higher, with the goal that all students will successfully complete pre-Calculus prior to graduating. And whereas Washington State requires three years of math in high school, Interlake strongly encourages students to take four. Administrators report that such high expectations increase the odds not only of college entry but of college success. While school administrators recognize that not all students may choose to go on to college, they believe it’s important to prepare all students to be “college-ready.”

For the past two years, Interlake student scores in math on the SAT college entrance exam have been higher than the state and the nation (see Table 2 for details).

**TABLE 2. SAT SCORES<sup>27</sup>**

	Class of 2006			Class of 2007		
	National	State	IHS	National	State	IHS
Math	518	532	541	518	531	550
Verbal	503	527	519	502	526	538
Writing <sup>28</sup>	497	511	498	494	510	528

**FOUNDATION FOR SUCCESS: OFFERING HIGH-LEVEL MATH COURSES AND SUPPORTS**

Interlake's principal and math chair point to the following three elements as critical to students' success in math:

- ☀ Making high-level math courses available to all students
- ☀ Encouraging students to take more challenging courses
- ☀ Providing supports to help students succeed

***Making high-level math courses available to all students***

**Inquiry-based approach.** Staff and administrators report that math at Interlake is more than just memorizing formulas and doing countless practice problems. Rather, the math curriculum is inquiry-based, so learning math is an interactive experience for students and staff. Teachers encourage students to question answers and processes, investigate alternative possibilities, and draw from their prior experiences to build on their knowledge. Interlake staff believe math knowledge is critically important, regardless of a person's future education or career plans. As a result, the school focuses on building students' understanding of math concepts in order to apply that knowl-

edge in their future endeavors, be it higher education, the work force, or as responsible consumers.

**A variety of course options.** Recognizing that students come in with a variety of skill sets and experiences, Interlake offers a wide range of high-level course options to increase students' chances for math success. Over the past ten years, Interlake has expanded the number, levels, and variety of math courses available to students while eliminating the most basic courses. Interlake currently offers 16 different math courses—all at the honors level or above. Regardless of the course selected, each offers a high level of academic rigor.

Through the AP and IB programs, Interlake offers a range of high-level math courses to best serve each student's individual strengths as well as their future plans. In 2006–07, most Interlake seniors (74 percent) were enrolled in AP and IB coursework. An increasing number of these students are taking the AP and IB exams, from 227 in 2002 to 776 in 2007.<sup>29</sup> (See Tables 3 and 4 for details.) What's more impressive, 78 percent of students taking the AP Calculus exam received a passing score,<sup>30</sup> making them eligible for college credit.

*"We are trying to do the best that we can to get every student as high and as far in math – we enable our students. And we know students struggle in math, so we offer a variety of math courses best suited to their needs."*

*- Jami Mickelson, Interlake Math Coordinator*

**TABLE 3. STUDENTS PARTICIPATING IN AP AND IB COURSEWORK (2006–07)<sup>31</sup>**

Grade	
12th	74%
11th	61%
10th	58%
9th	12% <sup>32</sup>

**TABLE 4. NUMBER OF IB PLUS AP EXAMS TAKEN (2002–2007)<sup>33</sup>**

Year	
2002	227
2003	265
2004	666
2005	630
2006	686
2007	776

**District-defined curriculum.** Administrators and staff report that Bellevue's clearly defined math program has been critical to Interlake's math success. The district's curriculum is consistent K–12, so as soon as students enter grade school, they begin the path that will prepare them for high-level coursework in high school. The math program is the same across all 16 elementary and 6 middle schools, so when students enter Interlake in ninth grade, they are prepared for rigorous math courses that will bring them at least to the pre-Calculus level, regardless of what specific course options they choose as right for them.

#### **Encouraging students to take more challenging courses**

**"Every student is a math student."** Research suggests that students who pass Calculus in high school, even if they retake Calculus in college, are more likely to graduate from college.<sup>34</sup> Interlake staff encourage *all* students – regardless of their past performance – to take advanced math courses to increase their chances of college success. When Interlake eliminated its more basic math courses, making all math classes honors level at a minimum, there was concern that some students would struggle. Historically, there



had always been a few lower-level math classes where students would often do just the minimum to get by. However, Jami Mickelson, Interlake's math coordinator, reported that when these students were combined into higher-level classes, they rose to the challenge. A majority of the students were achieving at a higher level in a more rigorous class. She believes that for many of the students, they had the skill, but needed an opportunity to experience rigorous coursework alongside their peers.

### *Providing supports to help students succeed*

For many students, success in high-level math courses requires more than just encouragement; they need support to increase their chances for success. Interlake offers a wide variety of support options—some beginning even before a student steps into the school. What makes Interlake's support unique is the number of programs and the variety of support. In addition, many of these programs not only focus on remediation but on acceleration as well.

## Student Story

In 1997, Anar immigrated to the United States from war-torn Azerbaijan as an 8-year-old who had never been to school. He received intense tutoring and support from the Bellevue school system and quickly caught up to his peers. Anar recalls that his fourth grade teacher mentioned college. Unfamiliar with the term, Anar asked his teacher what college was, and he remembers it was explained as the next step after high school. From that point on, he recalls, "There was no *if* college, it was always *when*." Once enrolled at Interlake, Anar took the necessary coursework, actively participated in sports and the community, and even assisted his family financially with a part-time job. Anar set his sights on the University of Washington, but needed help with his college application. College Corps Program volunteers assisted, including helping him write an essay that he recalls truly captured his experiences and hopes for his future. Anar used the knowledge gained from College Corps to help his mother apply to the University of Washington's nursing program. Both he and his mother were accepted and are now both proud college freshmen.

Anar Veliyev, Interlake Class of 2007

*"It prepared me mentally – I was not afraid entering my first day of high school. I was ready to go!"*

*– Josh Andreychuk, Interlake Class of 2010*

**"Starting Strong."** A program designed for incoming freshmen offers support for students who have struggled in their middle school classes. Staff work with middle school teachers to identify eighth grade students who could benefit from additional assistance and are offered the opportunity to come to Interlake the summer before their freshman year and get a head start on their classes.

**College Corps Program.** Selecting the right college and applying can be daunting tasks. To help, Interlake makes a College Corps Program available to all students and provides specially trained community volunteers to assist students with every aspect of the college process, including identifying and selecting the right school, preparing the application, and applying for available financial assistance.

**Tutorial High.** Where students can receive tutoring every day, in every subject, from 2:30–3:05 pm.

**Safe Study.** An after-school program where students can receive assistance for a variety of social or emotional issues that may have a negative impact on their school work, such as coping with stress, assistance with time management, or ideas to help them organizationally.

**Math Support.** A class that meets at the end of the school day and is required of students who are struggling academically, but also open for all who would like a little more assistance with math.

# What is the IB program?

The International Baccalaureate (IB) degree program is an academically rigorous, college preparatory program currently offered in 125 countries, including the United States.<sup>35</sup> Created in the 1960s to serve international students studying in other countries, IB has since become a challenging college preparatory program recognized by many elite universities around the world. Most U.S. high schools that offer the IB program use it to supplement their regular coursework, rather than as the only path students can take to graduation. Students can take their school's regular coursework, select some individual IB courses, or enroll in the IB diploma program, which has a rigorous set of requirements leading to an IB diploma. To earn an IB diploma, students must take classes in six subject areas (English, second language, individuals and society, sciences, math, and arts) and advanced classes in three of the fields. At the core of the program are three requirements: an extended essay, a Theory of Knowledge class, and a class entitled, Creativity, Action, and Service (CAS). CAS exposes students to activities that differ from the academic rigors of the program's other classes. For example, students participate in physical, creative, and social activities, including community service. The internationally created curriculum exposes students to a variety of perspectives, and the overall structure provides students who choose the IB program with a well-rounded education, preparing them for the rigors of postsecondary studies. Students earning an IB diploma also may qualify to earn college-level credits through IB courses.