

## WE ARE DIGITAL!

**T**HE JOURNAL OF ADVENTIST EDUCATION® has transitioned to an all-digital format. We have also transitioned from a subscription model to a cost-based model, and from a five-times-a-year publication to a quarterly publication. This cost-based structure allows us to provide the digital version of the JOURNAL to anyone who wishes to receive it, free of charge through the Apple App Store (iOS devices) and Google Play (Android devices). The print edition (parallel to the digital version) will continue as a quarterly production in divisions of the world church that choose to print and distribute the publication locally.

Changes in the ways readers access print (specifically magazines and newspapers), the economics of print publishing and distribution, and our desire to fully achieve our mission led to a series of conversations about how best to serve our worldwide reading audience. In 2013, in consultation with our Advisory Board and education stakeholders, THE JOURNAL OF ADVENTIST EDUCATION® began looking for ways to increase the numbers of Adventist educators receiving the publication. During 2014 and 2015, we continued to research and engage in discussions about effective ways to proceed. We came to the unanimous decision that a digital publication would help us increase the numbers of people receiving the JOURNAL worldwide.

For 77 years, the JOURNAL has served as a channel through which Adventist educators have collectively shared what is known about Seventh-day Adventist Christian education—its goals, aims, and values, research-based methods of instruction, and effective approaches for assessing and planning for learning,<sup>1</sup> and

it will continue to do so. As a print publication, it entered physical mailboxes of thousands of teachers across the globe, and its content has effected change in the lives of students in thousands of classrooms. Past issues of the JOURNAL have also been accessible online through [jae.adventist.org](http://jae.adventist.org) and [circle.adventist.org](http://circle.adventist.org). As a digital publication, however, current issues of the JOURNAL will be readily accessible (for free!) to **anyone** who has a mobile phone, tablet, or computer. We're excited about the journey ahead and the technology that helps us accomplish our mission.<sup>2</sup>

A special October–December issue of the JOURNAL, published as a part of our digital launch, contains information on how to access the new JAE App which is available from the App Store (iOS) and Google Play (Android). If you have not already done so, download it now.

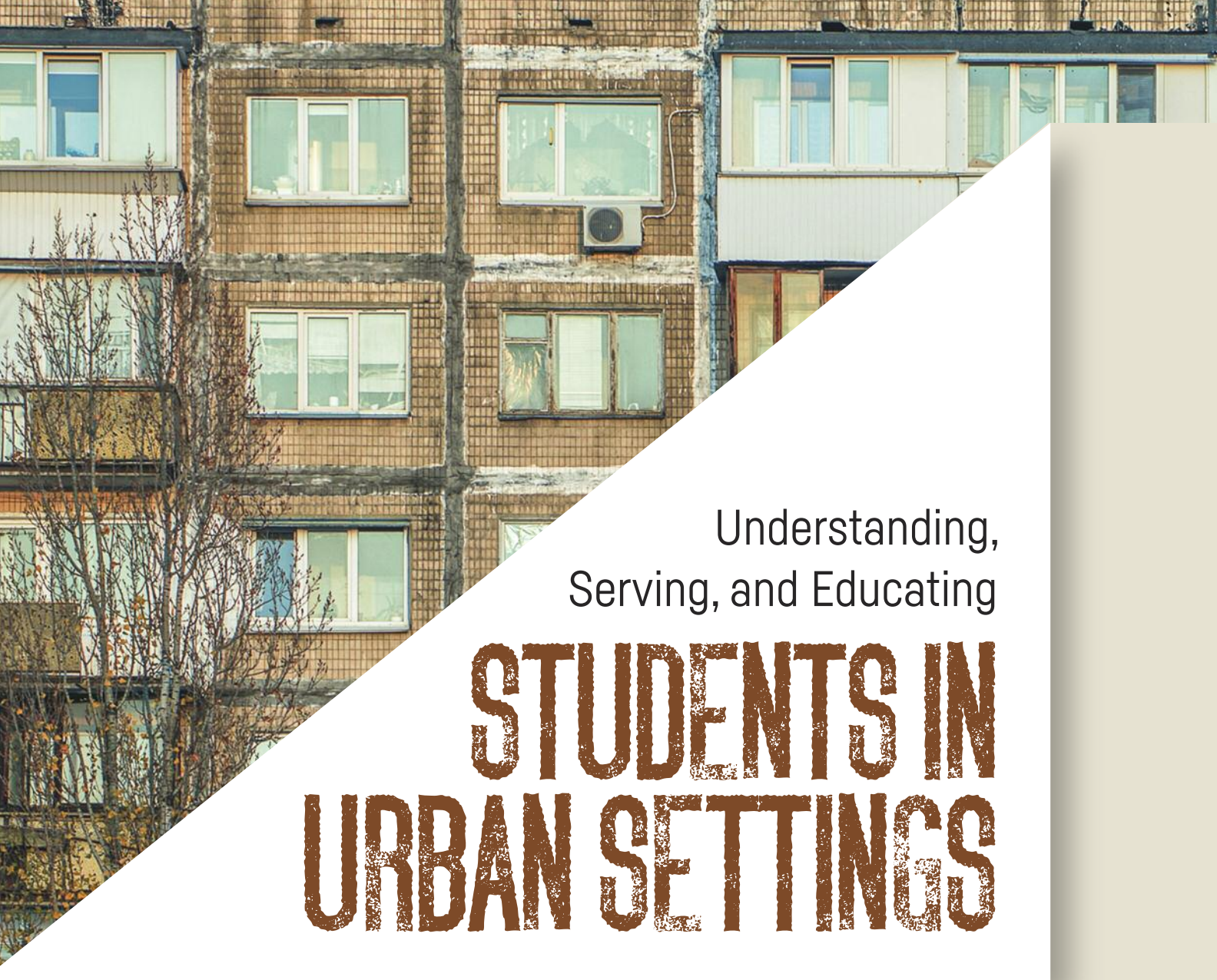
We look forward to sharing this new and dynamic format of THE JOURNAL OF ADVENTIST EDUCATION with Adventist educators worldwide!—THE JOURNAL OF ADVENTIST EDUCATION Editorial Staff.



## NOTES AND REFERENCES

1. THE JOURNAL OF ADVENTIST EDUCATION Mission Statement: <http://jae.adventist.org/mission.htm>.

2. Voted at the 1976 Annual Council: "To request employing organizations (conferences, academies, colleges, and universities) to provide *The Journal of Adventist Education* for all teachers at all levels," both in NAD and overseas (Action of October 21, 1976, GC Committee Minutes, 76-400): <http://documents.adventistarchives.org/Minutes/GCC/GCC1976-10b.pdf>, 40.



Understanding,  
Serving, and Educating

# STUDENTS IN URBAN SETTINGS

**T**he literature on minority and indigenous children reports that those who move from one geographic location to another, whether as immigrants, migrants, or refugees, often struggle in school, if they have access to education at all.<sup>1</sup> In urban educational settings, this struggle is more pronounced, as large numbers of children endeavor to attain the levels of educational achievement deemed necessary for their success.

## Wealth, Education, and Minority Education

Worldwide, 263 million children and youth are estimated to be unenrolled in school, a large percentage of whom are from ethnic, linguistic, or religious minorities and from low-income households. Most of these live in sub-Saharan Africa, South Asia, and West Asia; and a disproportionate number are girls.<sup>2</sup> Depending on the country and region in which they live, educational quality, outcomes, and resources vary widely for these children.<sup>3</sup>

Too often, schools in impoverished, urban, or isolated regions face an array of difficulties.<sup>4</sup> A disproportionate number of minorities or immigrant groups attend lower-quality schools,<sup>5</sup> and these schools tend to also have less-experienced teachers.<sup>6</sup> Migrants with language barriers also tend to do less well in school, and few of their teachers are bilingual.<sup>7</sup> In the United States (U.S.), in both public and private education, minorities are finding

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themselves with even less opportunity to interact with mainstream students than in the past, which is not an encouraging sign.<sup>8</sup>

### **Race and Poverty in the United States**

The United States is a nation of immigrants like few others, and the contrasts between racial groups are often stark.<sup>9</sup> For example, almost half of the children in the United States live in low-income families; and almost half of those live below the poverty level. Approximately one-third of Caucasian and Asian children, but about two-thirds of African-American and Hispanic children, live in low-income families.<sup>10</sup> Poverty is a predictor, though not itself a causal factor, of difficulties in education, and urban and rural centers tend to have high proportions of students living in poverty.

Urban schools are increasingly composed of poor children, many of whom are immigrants. Immigrant children often suffer experiences similar to those of disadvantaged children.<sup>11</sup> In addition, immigrant children need to acclimate to a new culture while reconciling the loss of the only home they may have known; some need to heal from emotional and physical scars caused by having to flee a war-torn country, abuse, or harsh conditions as they leave their homes and arrive in another country.

The Council of the Great City Schools, a large organization located in Washington, D.C., works with more than 11,000 urban schools and some seven million students in the United States. Their statistics show that nearly 71 percent of their students qualify for free lunch programs—a service the U.S. Government provides to the poorest children in the country. Forty percent are Hispanic, 29 percent are black, and 19 percent are white. English language learners constitute 17 percent of the student population.<sup>12</sup> Educational statistics, corrected for income level,

show that race still makes a difference in access to resources that ensure academic achievement.

### **Immigrants and Education**

Historically, depending on their country of origin, skin color, language, schooling, and perceived economic benefit, immigrants and refugees have been either welcomed or considered a burden by the country to which they are relocating. In more recent times, as conversations about legal and illegal immigration have intensified worldwide, negative perceptions have increased. Looking specifically at immigrant children in the United States, the data show that they are more likely to be poor, to have less-educated parents, and to have more language difficulties than native-born children. For example, in 2007, 55 percent of immigrant children, compared to 41 percent of children of native-born citizens, were living in low-income families.<sup>13</sup> Regarding levels of education, data from 2012 showed that “29 percent of foreign-born children with a foreign-born parent, 24 percent of native children with a foreign-born parent, and 6 percent of native children with native parents had a parent with less than a high school diploma or equivalent credential.”<sup>14</sup> This is important, as the education level of the parents has been found to be the single best predictor of a child’s educational achievement.<sup>15</sup>

One-fourth (24 percent) of children (ages birth to 17) in the United States today have at least one foreign-born parent.<sup>16</sup> This translates into a similar percentage of children in schools who have at least one parent born overseas,<sup>17</sup> a number that is much higher in urban areas. In some of the more international cities, such as New York, Los Angeles, and Miami, 50 to 70 percent of students are of immigrant heritage.<sup>18</sup> And be-

cause of the nature of most cities, where those who have more money move to the suburbs, many of the urban schools have extremely high concentrations of students of color, many of whom are immigrants from low-income families.

### **What Works for Immigrant Children**

Fortunately, some schools have achieved successes with these children and are beginning to understand what works. And what works for the urban poor in general is not so different from what works for immigrant students living in urban centers. The good news is that urban children are just as capable of academic success as students elsewhere. As one educator working in inner-city Detroit explained, “while many lower-income kids of color require different kinds of schools to succeed than do their majority middle-class suburban counterparts, these students have demonstrated that they are perfectly capable of strong academic learning and moving on to post-secondary studies.”<sup>19</sup>

What follows is an analysis of strategies that work in urban schools with high poverty, high diversity, and a significant number of immigrant students. These principles or approaches that have universal application are grouped around some of the underlying causes of failure that minority students may either bring with them to the classroom or face upon arrival: issues with school administration, self-confidence, motivation, failure, curriculum relevance, and culture. If we can address these concerns, we can make school a much friendlier place for urban students, especially immigrants and minority children.

### **Solve School Leadership Issues**

Improving education for all students begins with schools and school leaders, not with the students, who are not to blame for their



circumstances. Urban school districts are notorious for having issues with corruption, absentee teachers, and other administrative concerns.<sup>20</sup> Leadership problems create a difficult environment for all students, but more so for immigrants and children of color, who are often already on the edge in a school system that frequently does not accommodate their needs. Leadership is key to enhancing the schooling experience for immigrant students. While Adventist education may do better than large public systems in the area of leadership, there is still room for improvement. Here are a few areas for consideration:

*A safe, orderly, well-disciplined environment.* Maslow's hierarchy of needs makes the need for a safe environment clear, but too often school environment is not given enough emphasis in urban schools. Safety and order are basic prerequisites for learning.<sup>21</sup>

*Strong administrative leadership.* If students are to do well in school, they need to see an administration focused on their needs and possessing a clear understanding of how to help them learn.<sup>22</sup> Many school reformers include in this the ability to choose teachers and terminate the ones who do not do well.

*Professional, caring teachers.* Teachers of children in urban and underserved areas need to feel a sense of responsibility for their students, and also self-efficacy about their own abilities.<sup>23</sup> They need to participate in staff-development programs relating to school improvement. Committed, caring teachers, ideally at least some of whom are from the students' own ethnic group, have been found to be a key requirement for successful schools.<sup>24</sup>

### **Build Self-Respect and/or Self-Confidence**

Many minority and immigrant students, especially males, may not have had good role models or positive experiences in the past.<sup>25</sup> Past failures may further deteriorate self-confidence in the school setting.

*Adult relationships and school family.* Multiple studies in resilience literature suggest that a sense of belonging is the only significant predictor of school success.<sup>26</sup> It has also been shown that relationships with teachers or school personnel can replace missing family support and role models.<sup>27</sup> Finding ways of helping students belong, such as advisory groups, is an important part of helping at-risk students succeed. This allows for personal advice on how to do well in life, not just in school.<sup>28</sup> This is especially critical for immigrant students, who may be exposed to the new culture for the first time.<sup>29</sup>

*Cooperative learning.* The use of cooperative learning structures is especially powerful for urban minority students.<sup>30</sup> This may include peer tutoring or other forms of working together that build respect and teamwork, rather than competition.<sup>31</sup>

*Parental involvement.* When possible, parents should be encouraged to participate in school events and activities.<sup>32</sup> However, immigrant parents may find this especially difficult. Language, education, and work schedules are significant factors; some may even feel inadequate, shy, or intimidated because of their minimal education background. Schools can encourage participation by providing translators and translated resources for parents who do not speak the language of instruction, and by learning how the cultures represented perceive the relationship among teachers, students, and parents. Schools can also engage the family and community through partnerships, not only for apprenticeships or volunteering opportunities, men-

toring, or special interest clubs but also for building stronger relationships among students, teachers, and parents.

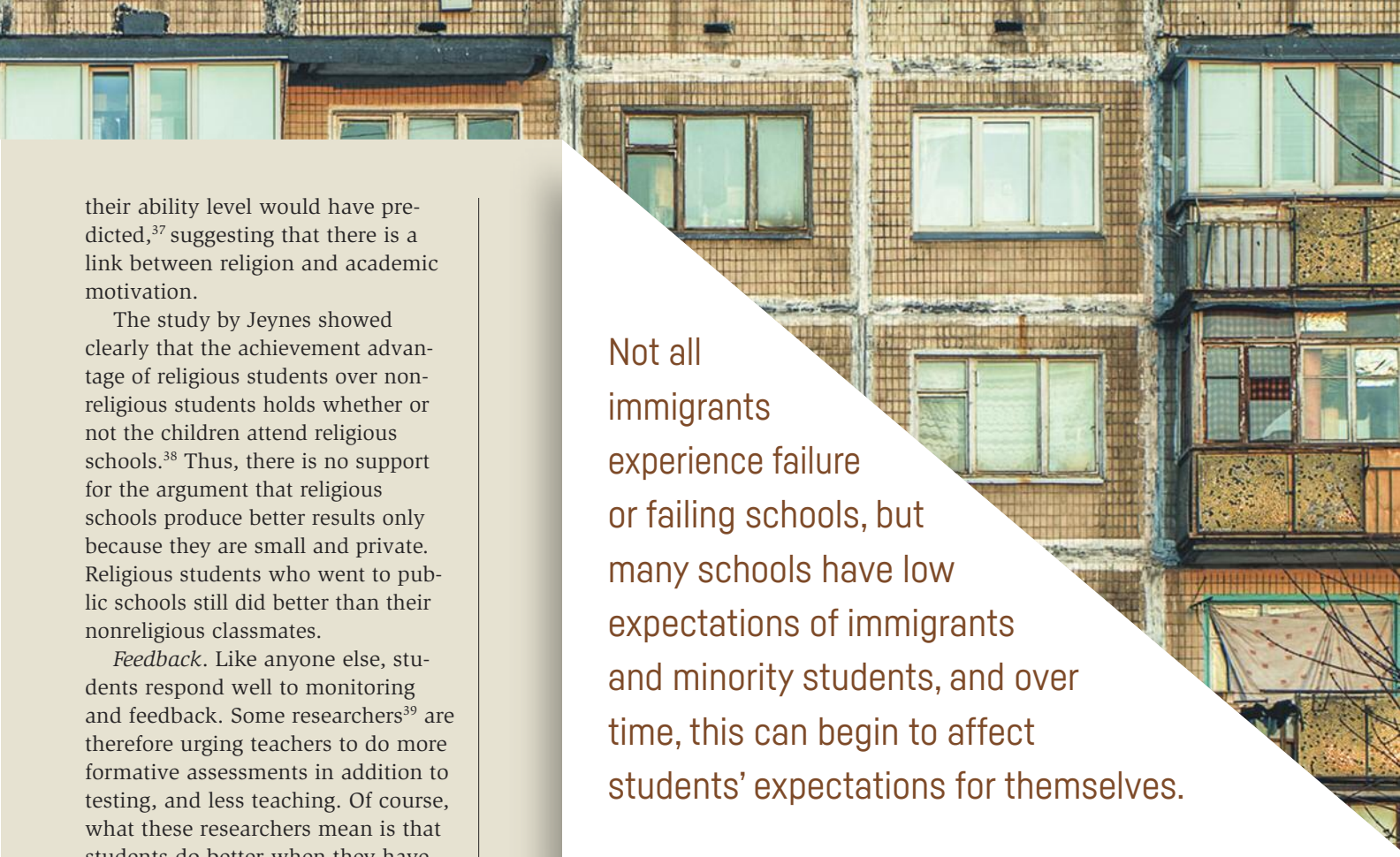
### **Increase Motivation**

For many students, the traditional values of family, church, and school have shifted to social and peer values. This shift results in school being irrelevant to students' lives, and it means that the motivation to work hard and do well in school is lacking and needs to be overtly explained and inculcated.<sup>33</sup> Motivation for some immigrant students may be an even greater challenge, depending on their background. Thus, an increased emphasis on nurturing interest is necessary to determine the reason for the lack of motivation. For some students, the underlying causes of lack of interest in school result from the negative experiences and traumas experienced in their home country prior to relocating. Here are a few suggestions for increasing motivation:

*Rhetoric.* Talk to students about achieving success. For example, teach students about a work ethic by putting up posters, slogans, and signs that communicate tips for success. Show them and help them experience the relationship between effort and achievement by verbally recognizing their hard work. For students whose parents did not go far in school, the only place to get ideas about how to do well in school and in life may be the classroom.<sup>34</sup>

*Religion.* Faith truly does motivate achievement. Contrary to the public stereotype that Christians are less academically proficient than nonreligious people,<sup>35</sup> students in Christian schools in general, and Adventist schools in particular, have traditionally done better than students in public schools.<sup>36</sup> In reports from various studies, Adventist students not only did well, they did better than





their ability level would have predicted,<sup>37</sup> suggesting that there is a link between religion and academic motivation.

The study by Jaynes showed clearly that the achievement advantage of religious students over non-religious students holds whether or not the children attend religious schools.<sup>38</sup> Thus, there is no support for the argument that religious schools produce better results only because they are small and private. Religious students who went to public schools still did better than their nonreligious classmates.

*Feedback.* Like anyone else, students respond well to monitoring and feedback. Some researchers<sup>39</sup> are therefore urging teachers to do more formative assessments in addition to testing, and less teaching. Of course, what these researchers mean is that students do better when they have multiple opportunities to try something, coupled with feedback on how well they have done, ideally including time to make corrections before their knowledge is subjected to grading.

*Incentives.* School success takes time to achieve. While some feel that incentives reinforce a “pay to perform” attitude and should therefore be avoided altogether, sometimes students need rewards along the way because they have trouble waiting until the end of the semester to see their progress. And for those who are not motivated by school, other types of incentives or reinforcement may be needed in the absence of the joy of learning for its own sake. Providing appropriate incentives can help get students started on the path to success.<sup>40</sup>

*Trust.* Teachers must provide ample evidence that they believe in their students.<sup>41</sup> They should also design opportunities and activities to build trust among students.<sup>42</sup> Peer mentoring programs help students build confidence and learn to be reliable in their re-

Not all immigrants experience failure or failing schools, but many schools have low expectations of immigrants and minority students, and over time, this can begin to affect students' expectations for themselves.

sponsibilities toward each other. Adult mentoring programs provide students with individuals in their lives who can listen, encourage, and push them to succeed.

#### **Break the School Culture of Failure**

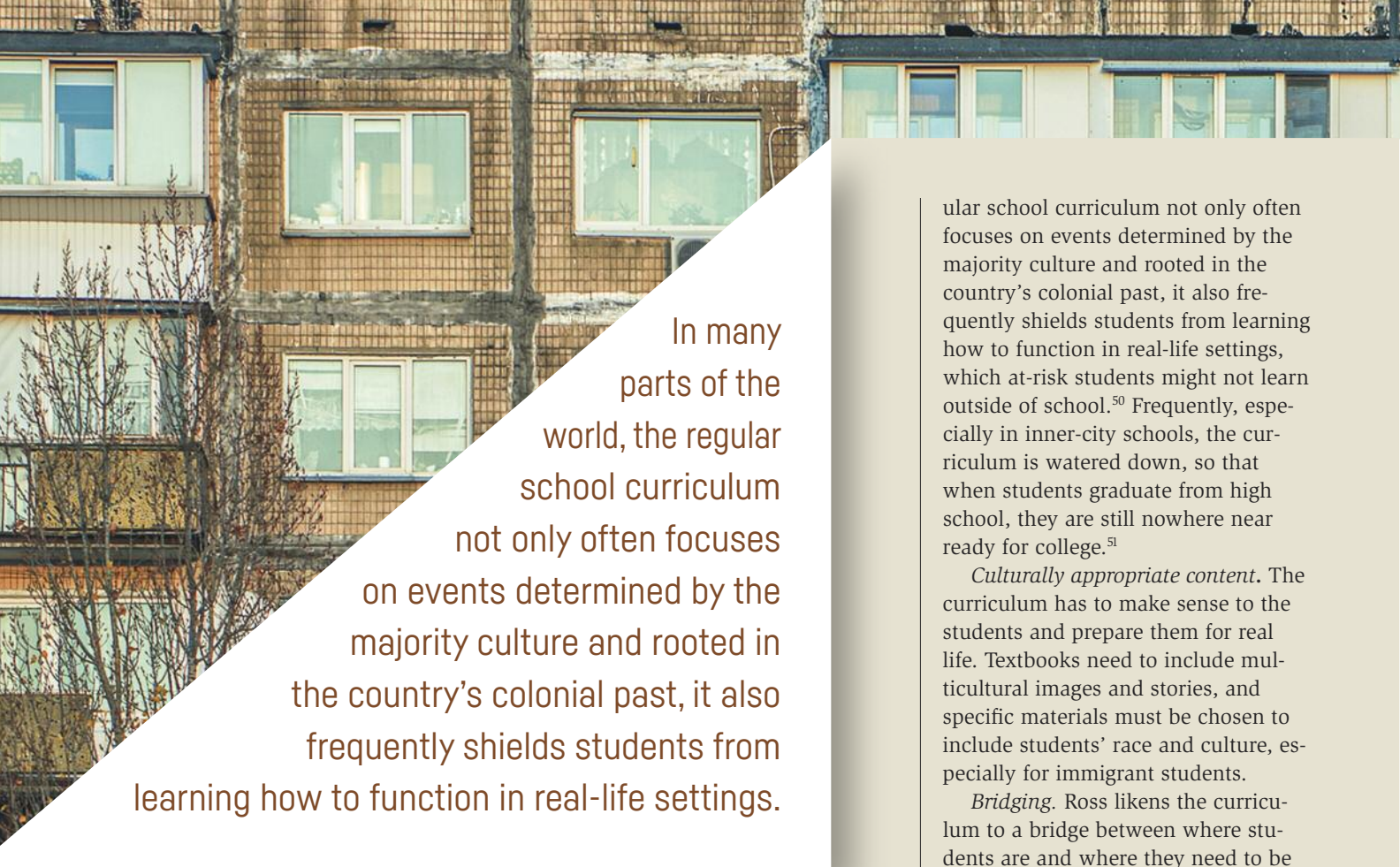
Not all immigrants experience failure or failing schools, but many schools have low expectations of immigrants and minority students, and over time, this can begin to affect students' expectations for themselves. Curriculum and instructional approaches employed by the school often perpetuate these expectations. In some schools, there is an overemphasis on basic skills, which can stimulate feelings of hopelessness regarding catching up or doing well.<sup>43</sup> English-language learners often are grouped with weaker or slower students, even though their ability may be much greater than what they are able to demonstrate because of their lack of

vocabulary. Breaking the culture of low expectations is possible, and the following have proved effective in this regard:

*High expectations.* Students who are caught in a rut of failure often expect teachers to lower the bar so that they can succeed. What they need, rather, is consistently high expectations, along with creative ways to help them achieve appropriate goals.<sup>44</sup>

*Scaffolded support for learning.* Students lacking skills need support to develop them. Computer-assisted instruction can be used to supplement class instruction.<sup>45</sup> Modeling, peer tutoring, and flipped classroom instruction are additional ways of supporting learning. Language learners, regardless of language, will need easier materials, with a lot of pictures, to help them build vocabulary and concepts in the different academic fields.

*Test-taking skills.* Students who do not do well on standardized tests may



In many parts of the world, the regular school curriculum not only often focuses on events determined by the majority culture and rooted in the country's colonial past, it also frequently shields students from learning how to function in real-life settings.

ular school curriculum not only often focuses on events determined by the majority culture and rooted in the country's colonial past, it also frequently shields students from learning how to function in real-life settings, which at-risk students might not learn outside of school.<sup>50</sup> Frequently, especially in inner-city schools, the curriculum is watered down, so that when students graduate from high school, they are still nowhere near ready for college.<sup>51</sup>

*Culturally appropriate content.* The curriculum has to make sense to the students and prepare them for real life. Textbooks need to include multicultural images and stories, and specific materials must be chosen to include students' race and culture, especially for immigrant students.

*Bridging.* Ross likens the curriculum to a bridge between where students are and where they need to be to attend college and get good jobs. Students need to be systematically exposed to the world of work, to different professions, and to the college environment.<sup>52</sup> This may happen through field trips, invited guest speakers, apprenticeships, or other means.

*Rigorous academics.* The curriculum must bring urban students up to the same level of performance as successful students in other contexts. Far too often, although these students attend school, the quality of their education is inadequate.<sup>53</sup> If anything, urban minority students need to know *more* than the more affluent majority students because they will inevitably encounter some forms of prejudice and suspicion about their abilities. These students need access to quality content and resources, and they need to acquire the skills that will help them succeed in the country in which they live. The way to achieve this quality may be uniquely tailored to the

need specific instruction in test-taking skills and activities to reduce test-taking anxiety. Tests are notoriously culturally biased, and immigrant students are at a disadvantage when it comes to standardized testing, especially. Some schools simply emphasize alternatives to testing,<sup>46</sup> while other schools choose to teach test-taking skills specifically, explaining that doing well on standardized tests requires a special kind of knowledge that they might not get in their other classes but that is important to know.<sup>47</sup>

*Developing a specific skill.* Scores of books and movies have been made about individual school success stories revolving around students learning a skill: chess, calculus, writing, or by participating in extracurricular clubs such as Pathfinders where students can earn honors for developing specific skills.<sup>48</sup> The implication is that if students can learn to do this *one* diffi-

cult thing, they will develop the self-discipline and commitment to do well in other areas of their lives. It does not seem to matter what the skill is—there seems to be some truth to the assumption. Success seems to break the culture of failure.

*Dismantling ability grouping.* Ability grouping, or tracking as it is often called, where brighter students are grouped together and given more challenging course work and weaker students are grouped and given “easier” courses, is a problem for nearly all students. In some instances, poorer-performing students are steered early into a nonacademic track. Tracking has been shown to reinforce the culture of failure, providing students who need the most help with the weakest teachers and removing peer-role models of success.<sup>49</sup> This will not motivate achievement or provide opportunities for improvement.

#### **Make the Curriculum Relevant**

In many parts of the world, the reg-





strengths and weaknesses of the specific students, but in the end, they must be able to hold their own in the ways that society measures success: on standardized tests, in the college classroom, and on the job.

*Breaking down the concept of “children of color.”* Whitmire suggests that blacks and Hispanics need to be taught differently and not lumped together as “children of color.” He explains:

“At successful all-black schools, school staffs build cultures based on social justice and employ highly structured curricula that emphasize verbal instruction. . . .

“At successful Hispanic schools, you are more likely to see a school culture based on connections to family with teachers employing an unstructured curriculum emphasizing visual instruction.”<sup>54</sup> This is a concept that clearly needs further study and experimentation. In a highly diverse setting, we cannot afford to pretend that all students need the same things, given what we know about learning styles and multiple intelligences.

*Appropriate language.* English-language learners, typically immigrant students, may need different types of materials than do those who speak the native language(s). Poor readers may need a greater quantity of easier materials with pictures that will help them bridge the gap from where they are to where they need to be. Language is key to school success, and improving language skills will often improve other skills, such as math.<sup>55</sup> This is an imperative for immigrant students.

### Reduce Cultural Conflict

Many students, especially immigrant children, find a large gap between their home culture and the one they experience at school. Because culture is rarely talked about—we presume that everyone knows certain things—minority and immigrant students are often expected to know things they have never heard, seen, or

experienced. Sometimes this gap is more of a conflict, where school values contradict values learned at home.<sup>56</sup> Majority culture must not be set as the norm; standards can be articulated from universal values and principles for living such as fairness, equality, empathy, cooperation, and others that have a place in most cultures.

*Teaching culture overtly.* Many minority students do not come to school with the set of social skills expected for a privileged-class lifestyle. Immigrant children often bring totally different worldviews to their new homes and educational settings. Students need to know that their own culture is not bad but that they need to learn a second culture in order to be successful in the mainstream job market of their current environment. Becoming multicultural is a tool they can use for success. According to Doug Ross, “When you think about it, it’s not surprising that expecting poor children living in class-segregated communities to flourish in a middle-class [privileged-class] world would require they be taught how to do it and given the chance to practice in real middle-class education and work settings. Schools that focus only on the 3 Rs, and are not organized to teach such beliefs and behaviors, consistently fail to produce students who meet the broader community’s expectations of graduation and post-secondary success.”<sup>57</sup>

*Culturally appropriate teaching methods and curricula.* Differing approaches that favor the cultural preferences of the students will meet with more success than textbook methods. Schools cannot provide every child with a teacher from his or her culture, even though evidence suggests that this is helpful to their progress.<sup>58</sup> Including celebrations of students’ cultures and guests from a variety of eth-

nic groups could at least help to increase the relevance for all learners and, therefore, increase immigrant children’s interest in succeeding in a new environment.

*Reducing prejudice.* Celebrate the cultures that are found in your classroom. Provide opportunities for students to share their cultures with the rest of the class. Design materials and activities to reduce racial and ethnic prejudice. Discuss conflict and how to deal with it peacefully. Teach equity and social justice, and look for opportunities to practice them both in the classroom and in the community.<sup>59</sup>

### Conclusion

As Christian educators, we need to celebrate all learners and seek to educate according to the immediate needs of our students. As student populations—especially in urban centers—grow more diverse, schools must become more culturally responsive. Our schools must provide scaffolding in areas where students experience knowledge gaps and need to succeed—language, computer skills, and math. Classrooms need to have general-knowledge materials with lots of pictures, materials that celebrate the cultures represented in the school, and materials that are appropriately designed for language learners.

Schools must emphasize equity and cultivate an environment where teachers and students develop bonds of trust and acceptance. They must teach in interactive ways, engage parents and communities, and provide all students with access to meaningful and rigorous curriculum and learning experiences. Adventist schools in urban settings must encourage faith development, maintain high expectations for all students, and explicitly bring students’ diverse backgrounds and cultural resources into the curriculum in purposeful ways by tapping into students’ multiple ways of knowing and representing

the world. What works in highly diverse urban settings is not so different from what works in other schools, but when students come to school with multiple challenges, getting these things right can make all the difference. ✍

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*This article has been peer reviewed.*

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#### NOTES AND REFERENCES

1. Mark Curtis, "A World of Discrimination: Minorities, Indigenous Peoples, and Education," in *State of the World's Minorities and Indigenous Peoples 2009*, Preti Taneja, ed.: <http://minorityrights.org/wp-content/uploads/old-site-downloads/download-649-Full-text.pdf>.
2. According to the most recent report from UNESCO, 61 million children of primary school age, 60 million of lower secondary school age, and 142 million of upper secondary school age are out of school (UNESCO Institute of Statistics [July 2016]: <http://www.uis.unesco.org/Education/Pages/oosc-data-release-2016.aspx>).
3. Curtis, "A World of Discrimination," 17.
4. Gary Orfield and Chungmei Lee, *Why Segregation Matters: Poverty and Educational Inequality* (January 2005), 4: <http://www.civilrightsproject.ucla.edu/research/k-12-education/integration-and-diversity/why-segregation-matters-poverty-and-educational-in-equality/orfield-why-segregation-matters-2005.pdf>.
5. Organisation for Economic Cooperation and Development, "Ten Steps to Equity in Education," *Policy Brief* (January 2008): 7: <http://www.oecd.org/education/school/39989494.pdf>.
6. Zvi Berkmen and Thomas Geisman, eds., *International Handbook of Migration, Minorities, and Education: Understanding Cultural and Social Differences in Processes of Learning* (Dordrecht, Netherlands: Springer, 2012), 16.
7. Kelvin M. Pollard and William P. O'Hare, "America's Racial and Ethnic Minorities," *Population Bulletin* 54:3 (September 1999): 43: <http://www.prb.org/Source/54.3/AmerRacialEthnicMinor.pdf?q=543-minoritiesMichael>.
8. Due to wars and political unrest in various parts of the world, many countries are now receiving more refugees. For a discussion of this concern, see Curtis, "A World of Discrimination," pages 13-15, where although some statistics are estimated, he concludes that we know little about the educational status of the world's minorities.
9. The data in this article are drawn primarily from studies done in the United States, which has been tracking minority education for quite some time. All nations have

a variety of people groups; however, research on these groups is not as complete or as readily available.

10. Yang Jiang, Mercedes Ekono, and Curtis Skinner, "Basic Facts About Low-Income Children: Children Under 18 Years, 2012," National Center for Children in Poverty Fact Sheet (February 2014): [http://www.nccp.org/publications/pub\\_1089.html](http://www.nccp.org/publications/pub_1089.html).
11. Min Zhou, "Growing Up American: The Challenge Confronting Immigrant Children and Children of Immigrants," *Annual Review of Sociology* 23 (1997): 65: [http://www.sscnet.ucla.edu/soc/faculty/zhou/pubs/Zhou\\_GrowingUpAmerican.pdf](http://www.sscnet.ucla.edu/soc/faculty/zhou/pubs/Zhou_GrowingUpAmerican.pdf).
12. Council of the Great City Schools, "Urban School Statistics": <http://www.cgcs.org/domain/24>.
13. National Center for Education Statistics, "Statistics and Trends in the Education of Racial and Ethnic Minorities" (May 2015): <http://nces.ed.gov/pubs2015/2015144.pdf>.
14. Federal Interagency Forum on Child and Family Statistics, "America's Children: Key National Indicators of Well-Being, 2013" (Washington, D.C.: U.S. Government Printing Office), 8: [http://www.childstats.gov/pdf/ac2013/ac\\_13.pdf](http://www.childstats.gov/pdf/ac2013/ac_13.pdf).
15. Suet-ling Pong and Nancy S. Landale, "Academic Achievement of Legal Immigrants' Children: The Roles of Parents' Pre- and Post-Migration Characteristics in Origin-group Differences," *Child Development* 83 (2012): 1545. doi:10.1111/j.1467-8624.2012.01790.x.
16. Federal Interagency Forum on Child and Family Statistics, "America's Children."
17. Pong and Landale, "Academic Achievement of Legal Immigrants' Children," 1, 543.
18. Alejandro Portes and Lingxin Hao, "The Schooling of Children of Immigrants: Contextual Effects on the Educational Attainment of the Second Generation," *CrossMark* 101 (2004): abstract, para. 2. doi:10.1073/pnas.0403418101.
19. Doug Ross, "Urban Education: The Kids Are Alright . . . The Schools Aren't: Lessons Learned by an Ex-Politician in Inner-City Detroit," *Dome* (September 16, 2010), para. 3: <http://domemagazine.com/features/cov0910>.
20. David Horowitz and John Perazzo, *Government Versus the People: The Four Poorest American Cities* (Sherman Oaks, Calif.: David Horowitz Freedom Center, 2012), 36, 37.
21. W. Huitt, "Maslow's Hierarchy of Needs," *Educational Psychology Interactive* (Valdosta, Ga.: Valdosta State University, 2007): <http://www.edpsycinteractive.org/topics/conation/maslow.html>; Cotton, "Edu-





cating Urban Minority Youth,” para. 1.

22. Kathleen Cotton, “Educating Urban Minority Youth: Research on Effective Practices,” School Improvement Research Series (1999), para. 6.

23. *Ibid.*, para. 7.

24. Thomas S. Dee, “The Race Connection,” *Education Next* 4:2 (Spring 2004): <http://educationnext.org/the-race-connection/>.

25. Mildred L. Rice Jordan, “Cultural Conflicts in the Urban Classroom: Black Student Alienation and Academic Failure”: [http://www.learningace.com/doc/1856329/2a58e2025\\_6](http://www.learningace.com/doc/1856329/2a58e2025_6). Retrieved January 11, 2017; Orange County Public Schools Curriculum and Student Services, “Strategies for Improving Instruction for Black and Hispanic Male Students” (June 2008), 3: <https://www.ocps.net/cs/services/initiatives/Documents/Strategies%20Document.pdf>.

26. Hersh C. Waxman, Jon P. Gray, and Yolanda N. Padrón, *Review of Research on Educational Resilience*, Research Report No. 11, Center for Research on Education, Diversity, and Excellence, University of California, Santa Cruz (2003).

27. James Comer, *Leave No Child Behind: Preparing Today's Youth for Tomorrow's World* (New Haven, Conn.: Yale University Press, 2005).

28. Ross, “Urban Education,” para. 7.

29. See for example, Linda Darling Hammond et al., *Powerful Learning: What We Know About Teaching for Understanding* (San Francisco, Calif.: John Wiley and Sons, 2008).

30. Cotton, “Educating Urban Minority Youth,” para. 18.

31. *Ibid.*, para. 21; see also some of the original research in this area; for example, Robert Slavin and E. Oickle, “Effects of Cooperative Learning Teams on Student Achievement and Race Relations: Treatment by Race Interactions,” *Sociology of Education* 54:3 (July 1981): 174-180; Robert Slavin and Robert Cooper, “Improving Intergroup Relations: Lessons Learned From Cooperative Learning Programs,” *Journal of Social Issues* 55:4 (Winter 1999): 647-663. doi:10.1111/0022-4537.00140.

32. Sonya Douglass Horsford and Tonia Holmes-Sutton, “Parent and Family Engagement: The Missing Piece in Urban Education Reform,” *The Lincy Institute Policy Brief*, Education Series No. 2 (August 2012): <http://www.unlv.edu/sites/default/files/24/Brief-Parent-Engagement-August2012.pdf>.

33. Orange County Public Schools, “Strategies for Improving Instruction,” 3, 7; Ross, “Urban Education,” paras. 3, 4.

34. Ross, “Urban Education,” paras. 8, 9.

35. William H. Jeynes, “The Effects of Religious Commitment on the Academic Achievement of Black and Hispanic Children,” *Urban Education* 34:4 (November 1999): 460. doi:10.1177/0042085999344003.

36. *Adventist Today* News Team, “Study of Education Outcomes Places Adventist Schools Significantly Ahead of Public Schools,” *Adventist Today* (last modified April 4, 2013): <http://atoday.org/study-of-education-outcomes-places-adventist-schools-significantly-ahead-of-public-schools/>; Larry Burton, “Adventist Schools,” in *The Praeger Handbook of Faith-based Schools in the United States, K-12*, Thomas C. Hunt and James C. Carper, eds. (Santa Barbara, Calif.: ABC-CLIO, 2012), 189-200; Jeynes, “Effects of Religious Commitment,” 460.

37. Burton, “Adventist Schools,” *ibid.*, 198.

38. Jeynes, “Effects of Religious Commitment,” 470, 476; See also CognitiveGenesis: [http://adventisteducation.org/assessment/cognitive\\_genesis/overview](http://adventisteducation.org/assessment/cognitive_genesis/overview) for research on the impact of Adventist education.

39. See Grant Wiggins, “Less Teaching, More Assessing: Learning via Feedback,” *Education Update* 48:2 (February 2006); Henry L. Roediger III, Adam L. Putnam, and Megan A. Smith, “Chapter One—Ten Benefits of Testing and Their Applications to Educational Practice,” *Psychology of Learning and Motivation* 55 (2011): 1-36.

40. For a discussion of testing of financial incentives, for example, see Roland G. Fryer Jr., “Financial Incentives and Student Achievement: Evidence From Randomized Trials”: [http://scholar.harvard.edu/files/fryer/files/financial\\_incentives\\_and\\_student\\_achievement\\_evidence\\_from\\_randomized\\_trials.pdf](http://scholar.harvard.edu/files/fryer/files/financial_incentives_and_student_achievement_evidence_from_randomized_trials.pdf).

41. Orange County Public Schools, “Strategies for Improving Instruction,” 6.

42. *Ibid.*

43. LaVada Taylor Brandon and Mary J. Didelot, *Being Black in U.S. Urban Schools: No Assumptions* (2003), para. 1; Jordan, “Cultural Conflicts in the Urban Classroom,” para. 1.

44. Cotton, “Educating Urban Minority Youth,” para. 8; Ross, “Urban Education,” para. 3.

45. Lindsay Lipscomb, Janet Swanson, and Anne West, “Scaffolding,” *Emerging Perspectives on Learning, Teaching, and Technology*, Michael Orey, ed. (2004): <http://epllt.coe.uga.edu/index.php?title=Scaffolding>.

46. Bob Peterson and Monty Neill, “Alter-

natives to Standardized Tests,” *Rethinking Schools* (2011): [https://docs.google.com/document/d/1n7xTA91riZ3dmPbbSWMCOJFmVvvs7P-ubliVabyI5w/edit?hl=en\\_US](https://docs.google.com/document/d/1n7xTA91riZ3dmPbbSWMCOJFmVvvs7P-ubliVabyI5w/edit?hl=en_US).

47. See, for example, Robert Slavin, *Educational Psychology: Theory and Practice* (Boston: Pearson Education, 2011), 521.

48. Books and movies such as *Freedom Writers*, *Stand and Deliver*, *Mad Hot Ballroom*, *Brooklyn Castle*, and many more reveal this pattern of crossover skills.

49. National Education Association, “Research Spotlight on Academic Ability Grouping” (1999): <http://www.nea.org/tools/16899.htm>.

50. Orange County Public Schools, “Strategies for Improving Instruction,” 12; Ross, “Urban Education,” para. 3.

51. Ross, “Urban Education,” paras. 3, 4.

52. *Ibid.*, paras. 13, 14.

53. Curtis, “A World of Discrimination,” 17-19.

54. Richard Whitmire, “Teach Black and Hispanic Students Differently,” *USA Today*, last modified May 1, 2012, “Success in San Jose” section, paras. 4, 5: <http://usatoday30.usatoday.com/news/opinion/forum/story/2012-05-01/education-achievement-gap-blacks-hispanics/54668664/1>.

55. Diana Metsisto, “Reading in the Mathematics Classroom,” in *Literacy Strategies for Improving Mathematics Instruction*, Joan M. Kenney et al. (Alexandria, Va.: ASCD, 2005): <http://www.ascd.org/publications/books/105137/chapters/Reading-in-the-Mathematics-Classroom.aspx>; Arthur Glenberg et al., “Improving Reading to Improve Math,” *Scientific Studies of Reading* 16:4 (June 2011): 316-340; William G. Secada, “Race, Ethnicity, Social Class, Language, and Achievement in Mathematics,” in *Handbook of Research on Mathematics Teaching and Learning*, Douglas A. Grouws, ed. (New York: Macmillan, 1992), 623-660.

56. Sara Expósito and Alejandra Favela, “Reflective Voices: Valuing Immigrant Students and Teaching With Ideological Clarity,” *The Urban Review* 35:1 (Spring 2003): 75.

57. Ross, “Urban Education,” para. 15.

58. Dee, “The Race Connection,” para. 4.

59. Several resources are available to classroom teachers who desire to create a welcoming, empowering classroom. See “Classroom Resources,” *Teaching Tolerance*: <http://www.tolerance.org/classroom-resources/>; “Tips for Elementary School Teachers,” *Understanding Prejudice*: <http://www.understandingprejudice.org/teach/elementips.htm>.

# SELF-TALK:

## Friend or Foe?

**D**o our thoughts influence what we do and feel? As a teacher, I have always been interested in exploring what contributes to the motivation and self-confidence of my students as they take on new tasks or learning opportunities. This interest led me to eventually study to be a psychologist, which in turn introduced me to the research on the important role our thoughts have on actions and emotions. Often, these thoughts and messages expressed from our inner voice happen without our even realizing it.

Internal dialogue is known as “self-talk.” Siegrist<sup>1</sup> describes self-talk as a person’s inner speech, either aloud or within his or her own thoughts. This inner voice, which can be positive or negative, is often a subtle running commentary in people’s mind, reinforcing and confirming personal perceptions and beliefs about themselves and/or the world around them. Positive self-talk helps people to feel good about themselves and increases motivation and feelings of competence. Negative self-talk tends to bring people down, leading them to give up or become overwhelmed with bad thoughts. Consequently, the negative self-talk generated by each of our students is potentially one of the most detrimental sources of criticism they will ever have to face, especially

since such self-dialogue is constant and often goes unchallenged.

Although I was unaware of the importance of self-talk as a third-grader, I do remember being affected by it. I had just moved to a new school, and the teacher announced she would be putting the class into different reading groups the next day based on how well we read. I took my reading book home to practice with my mom. I wanted to be in the “best” reading group because I knew one of my new friends would likely be assigned to that group, too. I liked reading with my mom. She listened well and gave me suggestions on how to improve my reading. “Take a breath after each period to pause a bit,” she would say, or “Please reread that part with a sad voice because the boy in the story is sad.” Her compliments came readily. “Great job. You are such a good reader!” she would encourage over and over, as I drank it all in. The following day when my teacher told me that she enjoyed how well I read, I remember thinking, “Of course I’m a good reader. Even my mom told me that!” From then on, for many years to come, positive self-talk about my reading skills came easily to me.

But the opposite is also true. Negative messages we tell ourselves as children may also affect us, especially if they go

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unchallenged. For example, I rarely batted well in softball and often got to first base only after four balls and a “walk.” Many times, though, my “impatience” led to a “STRIKE OUT!” call from the umpire. If I got up to bat when the bases were loaded, I would hear my teammates’ voices of doom: “Oh no, she’s up to bat!” while simultaneous squeals of delight emanated from the opposing team!

On these occasions, my self-talk went like this: “Oh, no! Why me?” “I can’t hit the stupid ball far enough!” “We’re going to lose because of me!” “I can’t bat!” “I hate playing ball!” I was defeated before even going up to bat because my negative self-talk made me my worst critic! I would repeat over and over “I can’t bat. I hate softball” and avoided playing softball as best I could . . . that is, until high school when an affirming physical education teacher helped me change my self-talk. Her support helped me begin to tell myself, “She believes in me. Give it another try.” And so I did. In 12th grade, by the end of October, I became the pitcher of our senior softball team! This illustration reveals how easily one can get stuck by focusing on one’s negative self-talk, which can erode self-confidence and self-esteem, thereby impeding motivation to try anything!

Let’s pause here a moment to explore the possibility that a person really is terrible at softball, math, or public speaking. Rarely is anyone good at everything! In fact, it would be ineffective and unhelpful to avoid recognizing the truth. So how does one decide whether his or her negative self-talk is true or not, and if true, what makes it destructive? Negative self-talk is particularly damaging when it keeps us mired in feelings of failure. While it may be impossible to consistently engage in positive internal dialogue during challenging times, intentionally working on limiting the use of negative self-talk and focusing rather on one’s strengths is important and a better use of mental energy. I would suggest becoming intentionally aware of one’s self-talk, assess what evidence supports it, seek outside feedback, and then focus on what strengths can move us forward.

Good use of self-talk would have guided me to recognize my deficits in softball, while also identifying my strengths. For example, “I’m not great at softball and dislike playing it, but I am a great cheerleader for my friends who are playing on the field.” Another example would be “I may sing badly, but I can give a great speech!” This kind of self-talk focuses on the things one can do well.

### Importance of Self-Talk

The early work of researchers in this area<sup>2</sup> suggested that positive self-statements and images are so powerful that they have positive effects on stored knowledge of self; they prepare a person to engage in future positive behaviors. Conversely, negative self-statements and images have deleterious effects on stored knowledge of self and stimulate subsequent negative behaviors.

Self-talk starts in the early years of childhood and comes naturally to everyone. Our private talk messages stem from the beliefs we develop about ourselves throughout our lifetime, assimilated from the way we interpret messages from others (parents, siblings, relatives, classmates, teachers,

bosses, etc.). By intentionally listening to your own self-talk, you can evaluate how you see yourself. Do you like yourself? Do you tend to feel defeated before even trying? Do you feel confident? Do you see yourself as a winner or a loser? Each of us uses internal dialogue to assess who we are, how others see us, how we see ourselves, what we feel we can or cannot do, how well we do things, what decisions we will make, and whether or not we are valued. It’s like an inner critic that never stops—constantly affecting our actions and deci-

sions. It is important to stay in tune with the tone of these messages and the way we appraise ourselves.

Research suggests that self-talk is key to how people approach life and deal with life’s challenges. It can increase motivation, reduce stress, alleviate fears, improve one’s performance in sports and competitive activities, and increase feelings of self-competence and self-esteem.<sup>3</sup>

A study by Kross et al.<sup>4</sup> suggests that how one positively self-talks is also important. When we self-talk using the first person pronoun “I,” we are usually talking about our personal emotions and emotional self. However, positive self-talk that seeks to provide a call of action or directive is most effective when it promotes self-distancing, either by “self-talking” using a second-person pronoun (“You will do fine.”) or third-person pronouns (“She will do fine.”) when referring to self. They suggest that self-distancing appears to help people cope not only with depression and anger related to ruminating over the past but also with social anxiety surrounding the future. In short, to achieve motivational change and drive, self-talk using the second- or third-person pronouns is most effective.



## Self-Talk in the Bible—Elijah

One Bible story that illustrates the power of self-talk is found in 1 Kings 18 and 19, where God asks Elijah to go up and confront King Ahab, Queen Jezebel, and her 450 prophets of Baal, in order to see who is more powerful, Baal or the God of Israel. After a long, grueling day of watching the prophets of Baal shouting and pleading unsuccessfully to their god, Elijah steps up to take his turn, prays a simple prayer to God and *zap!* A bolt of fire from heaven instantly consumes the sacrifice, which had been drenched in water. And as a bonus, no sooner had Elijah asked God to end the three-year drought, the skies “grew black with clouds, the wind rose, (and) a heavy rain started falling” (1 Kings 18:45, NIV).<sup>5</sup> Great day for Elijah and all of God’s followers! God’s power was manifested for all to see!

One would think Elijah would say to himself, “Wow! With God for me, who can be against me?” However, soon after this great triumph, Elijah is prostrate with fear because “powerful,” scary Jezebel is on her way to end his life! As he flees to the desert to hide from her, he expresses his own death wish by saying, “‘I have had enough, LORD. . . . Take my life!’” (1 Kings 19:4, NIV). This does not make sense to any of us looking on! How can Elijah, one minute, experience God’s great power and omnipotence, and the next, run scared? What’s going on?

This is a good example of how negative self-talk can lead us to depressive thoughts and to the conviction that we are doomed for failure even when we have the resources standing by to help us succeed! Most likely, Elijah’s inner talk went something like this: “She’ll find me and rip me apart! I won’t be able to defend myself! I’m alone, and she has many soldiers to fight for her! *Run!*” Even though Elijah was standing in the “rains” of God’s almighty power, his negative self-talk overwhelmed him.

## Self-Talk in Schools

Vygotsky,<sup>6</sup> one of the first educators to point out the importance of self-talk, described how generally, in young children, this occurs in an overt fashion. As children develop, the dialogue becomes more internal as it forms a part of their daily experience and existence, even though it is often unseen by onlookers. Self-talk can be instrumental in anticipating rejection, disapproval, embarrassment, helplessness, hopelessness, and feelings of rejection in children. Those who display measureable negative affectivity, anxiousness, and depressive self-talk may struggle academically if the symptoms are not properly identified and addressed. In fact, clinical trials have shown that negative self-talk can serve as a predictor for two disorders found in approximately 10 percent of children today: anxiety disorders and depressive disorders.<sup>7</sup>

As educators, we can apply self-talk to our school community. As discussed above, self-dialogue can be positive or negative, so it’s necessary to teach our students that positive self-talk is uplifting, encouraging, motivating, and inspiring while negative self-talk is stunting, anxiety producing, adverse, and destructive. Identifying the self-talk our students use offers us a glimpse of whether the messages they repeat about themselves are helpful. Children are often unaware of the running dialogue in their heads or the power of this type of talk. Helping them tune in to their self-talk can help them better regulate

these messages in a way that benefits them, whether it be calming themselves in an anxious moment or stopping self-defeating talk such as “No one likes me, and I have no friends.”

Many researchers believe that what happens to us in life is the primary cause of why we feel angry, hurt, stupid, rejected, stressed, or anxious. Thanks to the work of Albert Ellis, Aaron Beck, and Daniel Meichenbaum,<sup>8</sup> world-renowned psychotherapists whose professional work highlighted the need to intentionally explore one’s thinking, we now know the importance of eliminating negative thinking in order to respond and/or behave in a more functional way. Unchecked, negative self-talk can impede motivation and future successes and affect how we interpret events in our lives. For instance, let us say that Jake<sup>9</sup> is bringing his girlfriend Susan a gift, an album from one of her favorite artists. She sees him approaching and says to herself (self-talk), smiling, “He truly likes me. He remembered my birthday, and I’m special to him.” How will Susan react to the gift? Whatever she does, we know it will most likely be positive, right? But, on the other hand, if she has been told by friends that Jake and Amanda were seen holding hands and texting each other, she might think to herself, “That creep! He knows I found out that he’s been flirting with Amanda, and now he bought this album to appease me!? We’re finished!” How will she respond to him now? Most likely, very negatively! Even if he says to her, “But I like you and want to be your boyfriend,” if Susan continues to believe he’s playing her, nothing will change her mind or her reaction.

Now, whether or not Susan becomes depressed will also likely depend on her self-talk. Let’s say she tells herself, “I’m no good. I’m not as attractive as Amanda—no wonder he likes her better,” then most likely this will reaffirm her feelings of low self-esteem and unattractiveness and possibly lead her into depression. If, however, she tells herself, “I’m glad I found out now what he’s like. I deserve better,” then she will most likely get over the event more quickly and move on. You see, it is often not really the event that affects our feelings but rather what we believe and tell ourselves about what happens to us that shapes our feelings.

## Steps to Better Self-Talk

Making friends out of foes—negative self-talk—takes intentionality, consistency, and perseverance. Here are five steps that will help teachers with this task personally and in their classrooms:

1. Start with yourself as a person, as a teacher. What is your self-talk like?

**“I’m no good. I’m not as attractive as Amanda—no wonder he likes her better.”**



2. Tune in to the self-talk of your students and help them develop awareness of how this shapes their attitudes. Is self-talk their friend or their foe?

3. Implement activities that guide students' self-talk to the positive, productive, and empowering end of the spectrum.

4. Surround yourself with positive energy.

5. Find a resource in God and contemplate how valuable He regards you and your students to be.

*Step one.* Start with yourself. What is your self-talk like? Think about what triggers your positive or negative self-talk during the day. Keep a journal. It will be easier to help your students identify their self-talk if you have gone through the process yourself.

Step one is not just about identifying your self-talk messages but also about projecting your best talk outward. Intentionally work to make your classroom an affirming place.

Watch for opportunities to affirm what your students are doing. Did you see one child help another? Affirm that, as well as the student. "Jon, I liked how you helped Sam. You are so thoughtful." Did you observe a student studying quietly at her desk? Walk over and affirm her. "Nikki, I see how quietly you are reading at your desk. Great job. You know how to use your time wisely." Become the role model they need to see how it is done.

Studies suggest that statements made by significant others in the lives of children and young adults have an influence on helping them develop a better self-concept and healthier self-talk.<sup>10</sup> According to Harter,<sup>11</sup> these significant others are the children's parents, teachers, classmates, and close friends. When teachers make a conscious effort to model positive feedback to their students, this contributes positively to their helpful self-talk.

Children who reported that significant others talked positively to them appeared to have higher positive self-talk and lower negative self-talk than children who stated that significant others said negative things to them.<sup>12</sup> Researchers Craven, Marsh, and Debus report that children will actually internalize the positive feedback they receive from teachers, such as "You did well on that spelling test, congratulations," and use this to inform their personal self-talk ("I am good at spelling,") and to confidently complete similar tasks in the future. From these self-statements, children create self-concepts that describe their skills and impact their interests. Burnett<sup>13</sup> calls this the "power of positive" because the teacher is improving the school environment by increasing the number of positive self-statements in the classroom and creating a healthier learning environment.

Additionally, students copy what they see. If they observe

that a teacher treats others with patience, respect, and kindness, they will be inclined to do the same. Teachers must keep in mind that *what* they say, *how much* they say, *how* they say it, and *to whom* they say it can greatly influence a child's estimation of self-worth and also affect how students treat one another. If, for example, students see that their teacher dislikes Brandon and finds him annoying, they will likely develop the same attitude. The opposite is also true: If the teacher's attitude toward Brandon is one that recognizes him as a valued member of the class, they will tend to do the same.

*Step two.* Observe and listen to your students' inner talk to find out what they are telling themselves. Sometimes they will express their feelings out loud. If students are engaging in positive self-talk, they are more likely to say "I can do this," "I'll give it a try," "I am liked," and "I have good friends" (to name a few). This self-talk will most likely lead to their trying harder to memorize their multiplication tables, to sound out difficult vocabulary words, or to cope better when friends rebuff them. If students' self-talk is negative, you will hear statements such as "No one likes me," "I'm stupid," "I can't do it," or "I'll never get this." This could indicate that such children are depressed because they believe they have no friends, or feel overwhelmed by problems they feel incapable of solving.

Another way to pick up on your students' negative internal messages is to observe their behavior. For example, are they not turning in homework, eating alone at lunch, or not playing with others during recess? Ask them why they are not turning in their homework or tend to be alone as well as what they are thinking.

Finding ways for students to identify and become aware of self-talk messages can help them change the ones that drive them toward failure. Activities such as keeping a writing journal of the thoughts that help or don't help them, or discussing the topic in class after reading a story (such as *The Little Engine That Could*) are great ways to develop such self-awareness. Presenting case examples or watching movie clips and then having the students identify and discuss the self-talk of the people in the story will also help to demonstrate the effects of one's inner dialogue.

After such discussions, encourage students to write about their personal struggles and look for insights into the self-talk they use every day. Ask them which negative dialogues they would like to change into more positive ones. These exercises and discussions will help them learn to pay attention to the thoughts that cause the emotions they feel.

Remember, self-talk often occurs at a low level of awareness since our attitudes and beliefs develop throughout our lives, and it often results from the feedback we receive from loved ones, teachers, and friends. Recognition is the main task during the early steps. If students don't recognize what kind of self-talk they use, the negative messages will continue to dominate, depriving them of the positive self-dialogue that can help them cope, stay motivated, and feel good about themselves.

Helping students to identify and modify their self-talk will also help them to effectively regulate their emotions,<sup>14</sup> which can help reduce impulsiveness and enhance self-control. This enables them to introduce other people's perspectives into their private speech and to incorporate multiple perspectives into their social and emotional problem solving, which can affect their self-con-

**"I'm glad I found out now what he's like. I deserve better."**

cept,<sup>15</sup> enhancing their empathy and understanding of other people's viewpoints. The ability to successfully modify negative self-talk appears to be a good predictor of one's emotional intelligence.<sup>16</sup> Emotional intelligence can be defined as the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behavior.<sup>17</sup> Strengthening abilities to join intelligence, empathy, and emotions to enhance thought and understanding of interpersonal dynamics is critical to developing emotional intelligence.<sup>18</sup>

*Step three.* Implement activities in the classroom that guide self-talk toward the positive, productive, and empowering end of the self-talk spectrum. Educate students about the dangers of negative self-talk and how to overcome it. Some examples of such activities include the following:

- Create a unit on the importance of self-talk, and have the whole class identify the difference between positive self-dialogue and negative self-talk. The unit can be integrated into the elementary and secondary curriculum, as either a stand-alone module or a supplement in subjects such as religion or health.
- Devise topical lessons and themes for the month using catchy phrases such as "Deleting Defective Files," "Positive Uploads," "Stomp Out Mind Viruses Fast" or "Think Positive!" (or invent your own).
- Write and have the students act out a play that demonstrates the power of self-talk, and then have the students make preparations to present the skit for students in earlier grades.
- Initiate classroom discussions on how to pick out the messages that are detrimental to our internal dialogue and replace them with positive ones.
- Create a game where students pair contrasting negative messages with positive ones.
- Find ways to encourage the whole class to watch out for negative self-talk and turn it around. Be a role model.
- Say something negative, and then correct it. For example, if a teacher makes a mistake and calls a child the wrong name, the teacher could say "I'm so forgetful!" and then add, "Wait a minute. Sometimes I make mistakes, but I keep trying to do better."
- Have students share ways they have used self-talk to help themselves overcome difficult tasks or situations as they happen.
- Address these issues at Parent Teacher Association (PTA)

As Christians, we believe we can find a new resource in God, which can also improve our self-talk. Thoughts such as "I'm no good" can be transformed to "God loves me and I'm valuable" (per John 3:16). Or messages of "I'm alone and have no one" can be replaced with words of comfort from Christ who tells us, "I will not leave you as orphans; I will come to you" (John 14:18, NIV).

meetings or Parent Night. Get the students' families and the school family working on this together.

Inserting positive self-talk as quickly and concretely as possible and replacing negative self-talk are key. Finding ways to have your students practice shutting off the negative words by actually telling themselves to "STOP" the thought is a great self-talk activity to practice throughout the day. In psychology, this is a technique called "thought stopping." It has been shown to help one snap out of the negative cycle one can get into.<sup>19</sup> The earlier our students can cut off these attitudes, the better. Model how to do this. For example, tell them that if they catch themselves saying "I'll never pass this test," they should immediately reject the negative thought and replace it with a statement that is more rational and accurate. For example: "I can pass if I prepare my-

self adequately for the test," or "I'm no dummy. I've passed many tests before." Or "I can do this. I will start preparing right away." Not only are these thoughts more truthful, but they also displace the negative attitude with more productive, helpful ones. Provide students with lists of negative messages and work together to identify positive answers to them.

Engaging in these activities and others you continue to create will not only contribute to a more affirming and supportive classroom environment but also help students blossom with the positive spirit generated by positive self-talk. These activities will also help children who do not receive many good messages from other people and teach them how to develop them.

*Step four.* Cultivate and nurture a positive atmosphere throughout the school. Discuss how to be a positive, uplifting friend and why negative self-talk is a "downer." Discuss how friendships can support either positive or negative self-talk, and role-play how this happens and what it looks like. Schedule a week when everyone is asked to search for and find positive, uplifting messages in songs and music and have them share them in class, telling why they think the message is a positive one. Create a unit with the following assignments: Identify positive uplifting messages in books, music, and other media and share them with classmates. After a discussion, ask the students to take a few moments to describe the positive thoughts these books led them to experience. Brainstorm other forms of entertainment in which one could engage daily that would produce positive energy.

*Step five.* As Christians, we believe we can find a new resource in God, which can also improve our self-talk. Thoughts such as "I'm no good" can be transformed to "God loves me and I'm valu-



able” (per John 3:16). Or messages of “I’m alone and have no one” can be replaced with words of comfort from Christ who tells us, “I will not leave you as orphans; I will come to you” (John 14:18, NIV). Teachers can add these beautiful thoughts to any lesson on self-talk. Paul’s thoughts, when understood in the context of the importance of positive self-talk, take on a whole new meaning: “Finally, brothers and sisters, whatever is true, whatever is noble, whatever is right, whatever is pure, whatever is lovely, whatever is admirable—if anything is excellent or praiseworthy—think about such things. Whatever you have learned or received or heard from me, or seen in me—put it into practice.” “And the peace of God, which transcends all understanding, will guard your hearts and your minds in Christ Jesus” (Philippians 4:8, 9, 7, NIV).

Have discussions in class about how to treat and interact with others, keeping in mind that we are all God’s children. Discuss ways we can be uplifting and positive in our Christian walk, identifying how Christ did this while He was on Earth.

By practicing these steps, teachers and their students will get into the habit of thinking positively. Be patient. It may take many weeks or months to refute the repertoire of negative messages. Identifying this kind of “self-indoctrination,” challenging it, and replacing it with healthier self-talk presents the same sort of challenge as breaking any entrenched habit. It may take a lot of work, but in the end, it is well worth it. Teachers will be amazed as these strategies will help improve the spirit of love and support in their classrooms, leading to healthier, happier, more positive, and productive lives for themselves and their students. ✍

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#### NOTES AND REFERENCES

1. Michael Siegrist, “Inner Speech as a Cognitive Process Mediating Self-Consciousness and Inhibiting Self-Deception,” *Psychological Reports* 76:1 (February 1995): 259-265.
2. Michael Bruch, Victor Meyer, and Edward S. Chesser, “The Role of Evaluative Self-Schemata in Self-Talk: Some Predictions and Explorations,” *Scandinavian Journal of Behaviour Therapy* 16:4 (January 1987): 149-166; Donald Meichenbaum, *Cognitive-Behavior Modification: An Integrative Approach* (New York: Plenum, 1977); Max R. Uhlemann and Sharon A. Plater, “Effects of Self-Statements and Coping Strategies on Adaptational Outcomes of Stress,” *Canadian Journal of Counselling and Psychotherapy* 24:1 (January 1990): 3-16.
3. Barbara L. Fredrickson, “The Role of Positive Emotions in Positive

Psychology: The Broaden-and-Build Theory of Positive Emotions,” *American Psychologist* 56:3 (March 2001): 218-226; Eric L. Garland et al., “Upward Spirals of Positive Emotions Counter Downward Spirals of Negativity: Insights from the Broaden-and-Build Theory and Affective Neuroscience on the Treatment of Emotion Dysfunctions and Deficits in Psychopathology,” *Clinical Psychology Review* 30:7 (November 2010): 849-864; Jeremy T. Goldbach and Jeremy J. Gibbs, “Strategies Employed by Sexual Minority Adolescents to Cope With Minority Stress,” *Psychology of Sexual Orientation and Gender Diversity* 2:3 (September 2015): 297-306; Divya Kannan and Heidi Levitt, “A Review of Client Self-Criticism in Psychotherapy,” *Journal of Psychotherapy Integration* 23:2 (June 2013): 166-178; Christopher R. D. Wagstaff and John Leach, “The Value of Strength-Based Approaches in SERE and Sport Psychology,” *Military Psychology* 27:2 (March 2015): 65-84.

4. Ethan Kross et al., “Self-Talk as a Regulatory Mechanism: How You Do It Matters,” *Journal of Personality and Social Psychology* 106:2 (February 2014): 304-324.

5. Bible texts in this article credited to NIV are from the Holy Bible, New International Version®, NIV® Copyright © 1973, 1978, 1984, 2011 by Biblica, Inc.® Used by permission. All rights reserved worldwide.

6. Lev S. Vygotsky, *Thought and Language* (Cambridge, Mass.: MIT Press, 1962). Vygotsky’s work was originally published in 1934.

7. E. Jane Costello, et al., “Prevalence and Development of Psychiatric Disorders in Childhood and Adolescence,” *Archives of General Psychiatry* 60:8 (August 2003): 837-844.

8. Albert Ellis, “Rational Psychotherapy and Individual Psychology,” *Journal of Individual Psychology* 13 (January 1957): 38-44; Albert Ellis, *Overcoming Destructive Beliefs, Feelings, and Behaviors: New Directions for Rational Emotive Behavior Therapy* (Amherst, N.Y.: Prometheus Books, 2001); Aaron T. Beck, *Cognitive Therapy and the Emotional Disorders* (New York: Plume, 1979); Meichenbaum, *Cognitive-Behavior Modification*.

9. Names used are pseudonyms.

10. Paul C. Burnett, “An Investigation of the Social Learning and Symbolic Interaction Models for the Development of Self-Concepts and Self-Esteem,” *Journal of Family Studies* 2:1 (April 1996): 57-64; Paul C. Burnett, “Children’s Self-Talk and Significant Others’ Positive and Negative Statements,” *Educational Psychology* 16:1 (March 1996): 57-67.

11. Susan Harter, *Manual for the Social Support Scale for Children* (Denver, Colo.: University of Denver, 1985).

12. Rhonda G. Craven, Herbert W. Marsh, and Raymond L. Debus, “Effects of Internally Focused Feedback and Attributional Feedback on Enhancement of Academic Self-Concept,” *Journal of Educational Psychology* 83:1 (March 1991): 17-27. doi:10.1037/0022-0663.83.1.17.

13. Paul C. Burnett, “Children’s Self-Talk and Academic Self-Concepts: The Impact of Teachers’ Statements,” *Educational Psychology in Practice* 15:3 (1999): 195-200.

14. Philip C. Kendall and Muniya S. Choudhury, “Children and Adolescents in Cognitive-Behavioral Therapy: Some Past Efforts and Current Advances, and the Challenges in Our Future,” *Cognitive Therapy and Research* 27:1 (February 2003): 89-104.

15. Alain Morin, “Self-Talk and Self-Awareness: On the Nature of the Relation,” *The Journal of Mind and Behavior* 14:3 (Summer 1993): 223-234; Alain Morin, “Possible Links Between Self-Awareness and Inner Speech: Theoretical Background, Underlying Mechanisms, and Empirical Evidence,” *Journal of Consciousness Studies* 12:4, 5 (April/May 2005): 115-134.

16. Ann-Marie R. Depape et al., “Self-Talk and Emotional Intelligence in University Students,” *Canadian Journal of Behavioural Science* 38:3 (July 2006): 250-260. doi:10.1037/cjbs2006012.

17. Andrew Coleman, *A Dictionary of Psychology*, 3rd ed. (London: Oxford University Press, 2009).

18. John D. Mayer, Richard D. Roberts, and Sigal G. Barsade, “Human Abilities: Emotional Intelligence,” *Annual Review of Psychology* 59 (January 2008): 507-536. doi:10.1146/annurev.psych.59.103006.093646.

19. Richard Owen Lightsey, Jr., Edward Johnson, and Paul Freeman, “Can Positive Thinking Reduce Negative Affect? A Test of Potential Mediating Mechanisms,” *Journal of Cognitive Psychotherapy* 26:1 (February 2012): 71-88. doi:10.1891/0889-8391.26.1.71.



# Helping Children

## to Be Effective Partners in Their Own Health Care

For many people, the thought of visiting the doctor (or a school nurse) might generate feelings of nervousness, anxiety, or even fear. Whether a medical office is located in a high-rise office building, a small clinic in a developing country, or in a room next to the principal's office, the possibility of being overwhelmed by the impending visit is the same. Why is this so? Can anything be done to improve the interaction between medical professionals and patients? What role might schools have in

teaching children how to communicate with those who provide medical care?

Research clearly indicates that physicians and patients achieve better outcomes when they communicate effectively with each other, and when patients actively participate in their own care.<sup>1</sup> Not only are patients (and providers!) more satisfied, but adherence to prescribed treatment improves, complications are fewer, and health outcomes more positive. Both the Accreditation Council for Graduate Medical Education (<http://www.acgme.org>) and the Association of American Medical Colleges (<http://www.aamc.org>) have formally recognized the vital

role of interpersonal communication between medical personnel and patients. Despite overwhelming evidence of its importance, not all health-care providers are great communicators, and many people are unsure of how to actively participate in their own health care—either because they don't know how to do so or because they fear being labeled as being a difficult patient. Not only do people struggle to do what is best for their health, they may also find it difficult to interact with medical personnel.

These patterns begin early in life;

BY LESLIE R. MARTIN



thus, to ensure greater engagement, teaching children how to interact with medical professionals from an early age makes a good deal of sense. This article outlines a practical framework for understanding what drives engagement in personal health and provides specific recommendations for helping children and teens to develop their skills in these areas. The suggestions are classroom-centered, but many are applicable to the home environment as well; teachers and other personnel (e.g., guidance counselors, school nurses) are encouraged to work with parents to determine the most appropriate ways to target particular children or groups.

One reason people experience difficulties in interacting with clinicians is their conviction that they have little to contribute to the medical encounter. Because they lack formal training in the health professions, they think they have no important knowledge to share. Indeed, it can be challenging to dialogue with a specialist. Adding to the problem, medical interactions are often rushed, occur in unfamiliar environments, and may involve new concepts and jargon. Patients may be distracted by uncomfortable experiences such as that awkward paper gown or stresses associated with the procedures themselves.

These anxieties are often more pronounced in children,<sup>2</sup> whose distress manifests itself in various ways, including crying, aggression, and lack of cooperation<sup>3</sup> and other behaviors that interfere with the delivery of medical care and reveal the unpleasantness of the experience for the young patient. But because of the empirical evidence regarding the benefits of good communication and relationships in medical care, it is important to find ways to encourage active participation by patients in the health-care experience. This starts with knowing how to communicate effectively with health-care providers, as studies show that active engagement is important, even for children.<sup>4</sup>

Learning these communication skills early in life may be easier than learning them later on. Children as

young as 2 years old can communicate some of their own health-care needs,<sup>5</sup> and data indicate that information provided by older children and teens combined with observations from their parents can help medical professionals improve care.<sup>6</sup>

Childhood experiences are associated with later life outcomes, as patterns are set and habits learned—this is true in many areas, including health.<sup>7</sup> Numerous studies show that health habits related to things like diet, exercise, and dental hygiene start very early in life,<sup>8</sup> but little research has focused specifically on the early

vation—simply knowing what to do isn't enough; they must also *want* to do it. Third, they need strategies that can help them to overcome barriers and achieve the goals that they have set for themselves. Let's examine each of these in a bit more detail.

### Information

The first required element—information—contains two parts: giving and receiving. Even adults can find it challenging to provide succinct and accurate information to doctors, nurse practitioners, or others who query about symptoms—yet getting that in-

As with most things, verbalizing information about one's health gets easier with practice, and "normalizing" these types of exchanges will generally make them less anxiety-provoking. In addition, having an appropriate vocabulary to use is useful.

establishment of good health-stewardship in the context of the medical encounter itself. What can we do to instill these crucially important communication and self-advocacy skills? What techniques are most relevant for young people, and how can we best model and teach them?

### Information, Motivation, and Strategies

Just like anyone else, children need three specific things in order to change health behaviors.<sup>9</sup> First, they need information—if they don't understand what they *should* be doing, it will be almost impossible for them to do those things. Second, they need moti-

formation is imperative for these clinicians. As with most things, verbalizing information about one's health gets easier with practice, and "normalizing" these types of exchanges will generally make them less anxiety-provoking. In addition, having an appropriate vocabulary to use is useful. Therefore, the following recommendations may be useful for teachers, school nurses, and parents alike:

1. Provide students with correct names for body parts and functions, rather than creating imaginary labels as "stand-ins" for proper terminology.
2. When students ask questions about body parts and/or functions, provide simple, straightforward, age-appropriate answers; do not discour-

age questions or convey embarrassment/anxiety when discussing the human body.

3. Target information to the student's developmental level. For example, studies show that children age 5 and below know what medicine is but identify it by shape, color, and taste. Starting around age 6, children are likely to begin recognizing brand names and identifying the therapeutic role of the drug (e.g., a "cough medicine"). From about the age of 10, children can understand more complex explanations of medications and their use.<sup>10</sup> Thus, a question from an elementary-age child about why she or he has to take a medication will usually involve simple explanations of how the medication will help the body, while the same question from an adolescent will require a more detailed discussion about prognosis and likely outcomes in the presence and absence of the medication.

4. Use available resources to enhance students' knowledge as well as your own (see Box 1 on page 22). A particularly good online resource is Nemours' kidshealth.org—this Website has resources for parents, children, and teens that include age-appropriate medical dictionaries, games, quizzes, movies, tips, and recipes. Materials are available in English and Spanish. Other excellent resources are <http://healthychildren.org> (for parents) and <http://cdc.gov/family/kid> sites (for teens and families). Making young people aware of credible online health resources and using them as a part of school health curricula are important for fostering health literacy.<sup>11</sup>

Because anxiety levels are often high during a visit to the doctor's office, medical terminology may be less familiar, and encounters may happen quickly; absorbing the information one receives during a medical interaction can also be challenging. Perhaps the most important preparation is to help children feel comfortable asking questions and admitting when something is unclear (this is frequently difficult for adults to do, as well). The

following technique will enable children to feel more comfortable asking questions:

- Insert an unfamiliar word into a role-play, encourage questions about the meaning of the word, and then positively reinforce the queries. Strengthening skills is important here—the role-play need not always be health related.
- When children feel comfortable seeking information, broaden the practice to include other challenges, such as unclear answers or rushed responses.

Keeping track of important bits of information can also be difficult, so memory aids are useful. Here are some recommendations for helping children become good consumers of information:

1. Discuss what will likely happen during a visit to the doctor. If basic medical equipment is available (e.g., tongue depressors, a stethoscope, a blood-pressure cuff), these can be used to demonstrate or even "practice" the visit. With appropriate permissions, some of the more anxiety-provoking aspects of the visit (e.g., vaccinations) may also be addressed. Inviting the school nurse and/or another medical professional to the classroom for this discussion may be especially helpful—they can share their expertise, and through the interaction mitigate the anxiety some students may be feeling.
2. Help the children to formulate their questions ahead of time; these can be written down and shared with the clinician; older children and teens can take the list along as a reminder of what to ask. Teachers or school nurses may want to provide parents or other caregivers with guidance on developing a list of questions or concerns for visits about special medical issues. In all cases, children should be encouraged to be open with their doctors. There are no "bad" or "dumb" questions; if the child has a concern or if something is confusing, this is valid, and his or her query is warranted.
3. Taking notes during a medical encounter (or immediately after, if it is impossible to do during the interac-

tion) is a useful strategy for older children and adolescents. Even jotting down a few key words can make a difference. If this is not feasible, the doctor can be asked to provide a printout summarizing the visit and his or her recommendations.

### *Motivation*

People usually know what they want—what they find motivating—better than others do. Children are no different in this regard. They have strong preferences, so finding the right goals and the right rewards can dramatically improve health outcomes.<sup>12</sup> Talking to children and adolescents about their interests and concerns can provide key insight into what drives their behaviors; not only is this useful for parents, teachers, and health-care providers to know, but when young people learn to recognize these in themselves and to channel their energies, the resulting motivation is powerful.

Teachers, guidance counselors, school nurses, and other trusted adults serve as key role models for students. Showing them what engagement in one's own health looks like by modeling good behaviors may be more powerful than anything you can say. Here are some tips for motivating young people through modeled action:

1. Make healthy food selections yourself and discuss these choices with students. Students notice what the adults in their lives eat—cafeteria choices or what a teacher or administrator packs in a sack lunch can provide an example of healthy eating. Discussions of good choices can also be informally incorporated into other topics, both inside and outside the classroom (e.g., sharing the details of a holiday meal or a newly found recipe).
2. Preparing healthy foods—whether following a recipe or creating a unique concoction—can be both fun and educational. This is perhaps more easily applied at home, but can also be incorporated into the classroom through sim-





ple projects related to holidays or other special events. Depending on the facilities available, a more extensive application may be possible in home economics and health classes (with more “homework” required when onsite facilities are lacking). Data suggest that teaching about food as part of the formal curriculum has an impact well into adulthood.<sup>13</sup> In all classroom activities involving food, be alert to ensure student well-being—including teaching fire

safety, avoiding burns, checking for allergies, and so on.

3. Try incorporating “shopping” activities in the curriculum, taking care to focus on positives and avoiding overt criticism of family food choices. Encourage parents to include their children when shopping for groceries and even allow them to choose some healthy options for the family.

4. To model good communication with health-care personnel, encourage parents (perhaps through a handout or the school newsletter) to allow children to accompany them to some medical appointments, such as for annual flu vaccinations. This allows children to see important adults in their lives interacting in a proactive and engaged way with clinicians.

#### *Strategies*

Knowing what to do, and even being motivated to do it, is not enough. People need strategies to help them succeed. One proven strategy for making changes to behavior involves breaking things into small, easily achievable tasks.<sup>14</sup> Not only does this permit careful monitoring of progress, but it also enables one to experience success more quickly (thereby enhancing self-efficacy, the sense that one is “able to” do something, an important predictor of future success).<sup>15</sup> Here are some ideas for helping students to create manageable health-behavior goals:

1. Ask children to choose a developmentally appropriate, specific health behavior (e.g., eating at least three servings of fresh produce per day) that they would like to incorporate into their lives, or a target health indicator that they’d like to achieve (e.g., being able to run a mile in less than eight minutes). Then, divide the task into several parts. For example, for a child who doesn’t eat many fruits or vegetables, it might make sense to first eat a single serving of fresh produce per day before moving on to two, and eventually three. If a child currently takes 12 minutes to run one mile, setting a target of improving by 30 seconds per week might feel less overwhelming than thinking about the need to shave four whole minutes from one’s time. Children should be involved in setting the size of the steps, showing them how to take responsibility for the choices that will influence their health.

2. Encourage record-keeping and visual displays. Having things written down makes everything feel more concrete, and being able to see progress in the form of boxes checked off, stars on

a chart, or lines moving upward on a grid can be rewarding. Mobile technologies that help with record-keeping and self-monitoring are gaining popularity. Although there are not yet strong data to indicate their efficacy, researchers emphasize that if these technologies are useful to an individual, they will probably increase motivation.<sup>16</sup>

3. Reinforce goal attainment in appropriate ways. Sometimes simply achieving the goal is reward enough, but with some goals (or some people), an external reward is more effective.<sup>17</sup> Be sure to keep the rewards consistent with the goals—rewarding healthy eating with an ice-cream cone is probably not a good idea.

It can sometimes be hard to keep track of what one is supposed to be doing. Prompts and reminders can, and should, be incorporated into the environment to minimize failures due to simply forgetting. Teachers and parents can help students to monitor their behaviors and progress more effectively. Here are some ideas:

- Encourage children to put things in places where they will be seen and remembered. For example, keeping exercise shoes near the door or healthy snacks on the top shelf of the refrigerator can be an easy way to reinforce target behaviors.

- Teach children to use reminder notes—they can write their own and put them where they will be most helpful. For example, put a Post-It® note on the bathroom mirror (“Don’t forget to floss!”) or a sign on the bedside table, “Do deep-breathing exercises before bedtime!”

- Incorporate record-keeping technologies into classroom instruction. As mentioned previously, technologies now exist that can help people keep track of health behaviors and that make record-keeping fun—teachers can incorporate data from these devices into the curriculum, such as by using pedometer data in a mathematics class or to keep track of classroom competitions in a physical-education class. Researchers are developing apps to encourage ad-

herence to all sorts of activities from medications to healthy lifestyles. Some of these apps are very specialized, such as the ones being developed for pediatric transplant patients at Boston Children’s Hospital.<sup>18</sup> They aim to tailor them to different age groups and medical issues—in fact, some will eventually adjust to the user as his or her needs change. Keep your eyes open for high-tech tools like these!

- Encourage children to partner

with friends. Sharing goals can help motivate—peers can remind, applaud success, and motivate through competition. Sometimes they can do all three, but peers can also make negative, distracting comments. For this reason, it is important for teachers to promote positive communication by modeling for children appropriate ways to share encouragement.

## Box 1. Helpful Resources for Talking to Children About Health Care

**Nemours KidsHealth.org:** Nemours has age-appropriate resources such as games, medical dictionaries, quizzes, movies, tips, and recipes for parents.

Children: [http://kidshealth.org/en/parents/?WT.ac=t2p\\_tab](http://kidshealth.org/en/parents/?WT.ac=t2p_tab)

Children and young adults: [http://kidshealth.org/en/kids/?ref=p2k\\_tab](http://kidshealth.org/en/kids/?ref=p2k_tab)

Miscellaneous topics: how the body works, staying healthy, nutrition and fitness, and emotions and behavior: [http://kidshealth.org/en/teens/?WT.ac=k2t\\_tab](http://kidshealth.org/en/teens/?WT.ac=k2t_tab)

**Centers for Disease Control and Prevention (CDC):** This Webpage lists several CDC and U.S. Federal Government health Websites specifically geared toward children, teens, and families: <http://cdc.gov/family/kidsites>

**Lebonheur Children’s Hospital Surgery Preparation Resources:** Tips for preparing children and families for surgery, including a five-minute video about the surgery experience from the perspective of a child. Other tips include using pictures, books, stuffed animals, or toys to help children understand procedures; visiting the hospital prior to surgery to familiarize children with the environment; and maintaining a routine: <http://www.lebonheur.org/kids-health-wellness/practical-parenting/blog-entries/2014/07/preparing-your-child-for-surgery-age-appropriate-tips.dot>

**Talking With Children About Health:** Resources on how to communicate with sick children, get children to take medicine, tips on going to the doctor and dentist, and a child-friendly medical dictionary; as well as insights on what children experience and how to communicate with them: <http://www.pbs.org/parents/talkingwithkids/health/>

**Quick Tips Slide Show:** Helpful strategies for talking/listening to, and caring for children. Includes suggestions such as acknowledging how the child feels, offering choices, and helping the child anticipate what will happen and express anxieties and fears: [http://www.pbs.org/parents/talkingwithkids/health/preview/quickpreview\\_5.html](http://www.pbs.org/parents/talkingwithkids/health/preview/quickpreview_5.html)

**Print and Picture Books to Help Prepare Children for Medical Procedures:**

*Adventist HealthCare Recommended Books:* <http://www.adventisthealthcare.com/services/pediatrics/books/#.VxZtrfkrJaQ>

*Vanderbilt University Medical Center Books for Children About Hospital Stay or Illness:* <http://www.childrenshospital.vanderbilt.org/guide.php?mid=9648>

*Little Parachutes Picture Books to Help Children With Life Changes:* <http://www.littleparachutes.com/subcategory.php?sid=25>



We read in 1 Corinthians 6:19 and 20 (RSV)<sup>19</sup> that “your body is a temple of the Holy Spirit within you. . . . You are not your own; you were bought with a price.” This emphasizes the high value that Christians, and Seventh-day Adventists in particular, should place on maintaining healthy bodies and our responsibility to care for these temples. But, although health and physical-education classes are a part of most curriculum plans, educators often eat badly, sleep and exercise too little, and don’t bother to search for information about how they might improve their health. Teachers, counselors, and school nurses have a vital role to play, helping to instill these values in students from an early age—not only through creative instruction, but also by modeling good health behaviors.

Adventists recognize the more familiar parts of the health message—eating a plant-based diet, avoiding harmful habits such as smoking, and so on. But we may overlook the importance of engaging in medical decision-making and working with our health-care providers to make the best choices for ourselves as individuals. Many of us don’t practice dialoging with our doctors. We may swallow our questions. We may be passive rather than active participants. However, this need not be true for the next generations. We can begin early to teach children how to be engaged partners in their own health care, and in this way, bring them closer to fulfilling the duty of stewardship over their bodies, the temple of the Holy Spirit. ✍

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#### NOTES AND REFERENCES

1. Debra L. Roter and Judith A. Hall, *Doctors Talking With Patients/Patients Talking With Doctors: Improving Communication in Medical Visits*, 2nd ed. (Westport, Conn.: Greenwood Publishing Group, 2006).
2. Colleen Lacey, Marsha Finkelstein, and Megan Thygeson, “The Impact of Positioning on Fear During Immunizations: Supine Versus Sitting Up,” *Journal of Pediatric Nursing* 23:3 (June 2008): 195-200; Mark Lumley, Barbara Melamed, and Linda Abeles, “Predicting Children’s Presurgical Anxiety and Subsequent Behavior Changes,” *Journal of Pediatric Psychology* 18:4 (August 1992): 481-497.
3. Lumley, Melamed, and Abeles, “Predicting Children’s Presurgical Anxiety and Subsequent Behavior Changes,” *ibid.*; Dynnette Hart and Elizabeth Bossert, “Self-reported Fears of Hospitalized School-aged Children,” *Journal of Pediatric Nursing* 9:2 (April 1994): 83-90; Paul Jacobson et al., “Analysis of Child and Parent Behavior During Painful Medical Procedures,” *Health Psychology* 9:5 (January 1990): 559-576.
4. Arlene Butz et al., “Shared Decision Making in School-age Children With Asthma,” *Pediatric Nursing* 33:2 (March 2007): 111-116.
5. Cristina Nova, Elena Vegni, and Egidio A. Moja, “The Physician-Patient-Parent Communication: A Qualitative Perspective on the Child’s Contribution,” *Patient Education and Counseling* 58:3 (September 2005): 327-333.
6. Gordon H. Guyatt et al., “Children and Adult Perceptions of Childhood Asthma,” *Pediatrics* 99:2 (February 1997): 165-168.
7. Neal Halfon and Miles Hochstein, “Life Course Health Development: An Integrated Framework for Developing Health, Policy, and Research,” *Milbank Quarterly* 80:3 (September 2002): 433-479.
8. Howard S. Friedman et al., “Stability of Physical Activity Across the Lifespan,” *Journal of Health Psychology* 13:8 (November 2008): 1092-1104; Vera Mikkila et al., “Consistent Dietary Patterns Identified From Childhood to Adulthood: The Cardiovascular Risk in Young Finns Study,” *British Journal of Nutrition* 93:6 (June 2005): 923-931; Robert Malina, “Tracking of Physical Activity Across the Lifespan,” *President’s Council on Physical Fitness and Sports Research Digest* 3:14 (September 2001): 1-8; Dorthe Holst and Annemarie A. Schuller, “Oral Health in a Life-course: Birth Cohorts From 1929 to 2006 in Norway,” *Community Dental Health* 29:2 (June 2012): 134-143.
9. Leslie R. Martin, Kelly B. Haskard-Zolnierok, and M. Robin DiMatteo, *Health Behavior Change and Treatment Adherence: Evidence-based Guidelines for Improving Healthcare* (New York: Oxford University Press, 2010).
10. Christina De Maria, Marie-Thérèse Lussier, and Jana Bajcar, “What Do Children Know About Medications? A Review of the Literature to Guide Clinical Practice,” *Canadian Family Physician* 57:3 (March 2011): 291-295.
11. Saud F. Ghaddar et al., “Adolescent Health Literacy: The Importance of Credible Sources for Online Health Information,” *Journal of School Health* 82:1 (January 2012): 28-36.
12. Martyn Standage et al., “Predicting Students’ Physical Activity and Health-related Well-being: A Prospective Cross-domain Investigation of Motivation Across School Physical Education and Exercise Settings,” *Journal of Sport and Exercise Psychology* 34:1 (February 2012): 37-60.
13. A. Worsley et al., “Does School Health and Home Economics Education Influence Adults’ Food Knowledge?” *Health Promotion International* (August 2015): <http://oxfordjournals.org>. doi:10.1093/heapro/dav078. Accessed December 2015.
14. Martin et al., *Health Behavior Change and Treatment Adherence*; Thomas Bodenheimer, Connie Davis, and Halsted Holman, “Helping Patients Adopt Healthier Behaviors,” *Clinical Diabetes* 25:2 (April 2007): 66-70.
15. Martin et al., *Health Behavior Change and Treatment Adherence*, *ibid.*; Albert Bandura, “Self-efficacy: Toward a Unifying Theory of Behavioral Change,” *Psychological Review* 84:2 (March 1977): 191-215.
16. Lora E. Burke et al., “Current Science on Consumer Use of Mobile Health for Cardiovascular Prevention: A Scientific Statement From the American Heart Association,” *Circulation* 132 (August 2015): 1-57; Leslie R. Martin and V. E. Haro, “Adherence Technologies and Treatment Engagement,” in W. O’Donohue, L. James, and C. Snipes, eds., *Practical Strategies and Tools to Promote Treatment Engagement* (New York: Springer International Publishing, 2017).
17. Martin et al., *Health Behavior Change and Treatment Adherence*.
18. Tripp Underwood, “Improving Medical Adherence in Kids? There’s (Going to Be) an App for That,” *Thriving—Boston Children’s Hospital’s Pediatric Health Blog* (July 2012): <http://childrenshospitalblog.org/improving-medical-adherence-in-kids-theres-going-to-be-an-app-for-that/>. Accessed June 20, 2014.
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What  
Is the  
Special  
Character  
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# ADVENTIST COLLEGE OR UNIVERSITY?

**W**hat is a Seventh-day Adventist college or university?<sup>1</sup> What are its defining traits? These are crucial questions. It is all too easy for the current of secular society to buffet a school, tug at its moorings, and dilute its unique mission and identity. Peer pressure can affect institutions as well as individuals.

Over several decades, I have had the opportunity to interact with many Adventist colleges and universities. As I reflect on these experiences, certain distinctive traits begin to emerge, a special character that reflects constituency priorities and that conveys a certain authenticity as a Seventh-day Adventist institution.

These defining characteristics seem to be embedded in six key commitments, crucial areas around which the educational community can rally and in which important developments can take place (see Figure 1).

## **Commitment to Intentionality**

In a Seventh-day Adventist college or university, there is a core commitment to intentionality. The board of trustees and the administrative team purposefully focus on how the institution might best fulfill its God-ordained mission, how it might develop and implement a distinctive Seventh-day Adventist identity, and how it might contribute in meaningful ways to the strategic priorities of the gospel commission.<sup>2</sup>

Based on this reflection, they develop and periodically review the guiding documents of the institution, including its statements of mission and vision, which then serve as the foundation for strategic planning, assessment, and continuous improvement.

While the administration and the board of trustees play a

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leading role, it is vital that all stakeholders be involved in casting the vision of the institution. This ensures that the strategic initiatives upon which the college or university embarks are those that emerge from shared values and understanding. In this process, however, leadership serves as both catalyst and facilitator. This involves listening carefully, asking questions, building bridges, encouraging partnerships, providing support systems, and focusing on the assessment and evaluation of outcomes in the fulfillment of mission.<sup>3</sup>

Based on this reflection and with input from the various stakeholders, leadership develops a strategic plan in harmony with these goals, a plan that is not merely updated once a quinquennium but also provides a dynamic window to the future. The intent is to continuously and consciously enhance institutional efficiency and effectiveness in fulfilling mission through strategic initiatives and system redesign.

A commitment to intentionality also implies that the board and the administration thoughtfully assess emerging trends in higher education, maximizing those that are consistent with the Adventist philosophy of education<sup>4</sup> and that align with mission, while proactively anticipating and mitigating trends that pose a threat to the institution and the implementation of mission.<sup>5</sup>

Overall, the commitment to intentionality seeks to foster a strong culture of institutional reflection, planning, and assessment that leads to data-driven decision-making. It results in a school configured by design, an institution advancing with mission-focused intent.

### Commitment to Excellence

A Seventh-day Adventist college or university promotes and affirms excellence in teaching and learning. This involves advancing whole-person development,<sup>6</sup> promoting high-level thinking,<sup>7</sup> forging strong links between theory and practice,<sup>8</sup> and employing authentic assessments.<sup>9</sup> It calls for thriving programs, cutting-edge fields of specialization, an engaged learning community, a robust core curriculum that conveys institutional identity and values across disciplines, and a global perspective, all operating within a strong faith commitment.

Excellence in an Adventist school cultivates a biblical worldview throughout courses and programs,<sup>10</sup> as well as cocurricular activities, with a goal of forming Christlike character and of connecting knowledge to its Source.<sup>11</sup> This is ev-

idenced in teachers who approach disciplines from a biblical perspective. It is seen in faculty and staff who engage students in faith conversations and who pray with students and with one another. It is found in programs of study that incorporate key beliefs of the Seventh-day Adventist Church,<sup>12</sup> as these intersect with the various disciplines.

A commitment to excellence also creates a setting, within the context of faith, in which research and creative endeavor are nurtured and recognized.<sup>13</sup> This includes promoting collaborative faculty and student research, as well as providing grant-writing support to facilitate external funding. It further orients scholarship so as to make meaningful contributions to the mission of the Seventh-day Adventist Church and society. Overall, the commitment to excellence develops an institutional culture that prioritizes continuous quality improvement and focuses on essential outcomes as the key measures of excellence.

**Figure 1. Key Commitments That Exemplify the Special Character of a Seventh-day Adventist College or University**



### Commitment to Stewardship

A commitment to stewardship seeks to ensure that the college or university is financially sound and that institutional resources are directed in support of mission. This includes developing strategies that contribute to financial resilience, prioritizing the budget in harmony with institutional goals, and identifying effective strategies that result in increased giving to the school. It implies periodically conducting an efficiency and effectiveness analysis of the various areas of the institution, including the academic programs.<sup>14</sup>

Stewardship involves caring well for the young people of the Seventh-day Adventist Church.<sup>15</sup> The college or university consequently develops and implements strategies that will allow it to serve an ever-increasing proportion of Adventist young people, taking into account institutional capacity and points of optimal financial return.

In the whole-person paradigm, a focus on stewardship prioritizes an institution-wide emphasis on health and wellness.<sup>16</sup> This includes the promotion of a healthy lifestyle throughout the academic programs and student services. It incorporates the provision of health and wellness facilities and staff that highlight the institution's commitment.

An Adventist college or university also exercises responsible care for the institutional environment. This includes developing, renewing, and expanding campus infrastructure so that it fulfills the expectations of a quality educational institution, in accordance with the institution's strategic plan. It



also involves moving the school toward a “green campus,” with the goal of advancing the institution as a leader in sustainable resources and stewardship of the environment.<sup>17</sup>

### Commitment to Community

A Seventh-day Adventist college or university is committed to forming a supportive, caring community where individuals feel that they are valued, loved, and respected. Venues are created for leadership, faculty, and staff to connect with one another and with students, and for students to interact and collaborate, especially with students from other disciplines and programs.<sup>18</sup>

Throughout the various areas of the institution, faculty, staff, and students sense that leadership is accessible and willing to listen. This is the case because administrators have established a priority of conversing and consulting, of listening to and learning from the school’s principal stakeholders. To this end, leaders establish consultative forums that meet periodically to provide informal, open-ended input. These forums include groups of students, faculty, and staff, as well as alumni and individuals in the immediate community.

As noted so far, shared vision is based on shared understanding. For this to develop, however, it is necessary for administrators to nurture relationships and engage in conversations to understand the background, strengths, needs, and dreams of the various entities and individuals within, as well as those closely connected to the institution. As a result of these interactions, certain themes begin to emerge—themes related to the institution’s identity, positioning (where it is and where it wants

to be in relation to its goals), and planning (how it might reach these goals). These themes are then incorporated as key elements in the strategic planning process.

The commitment to community also affirms diversity within the biblical framework and celebrates its contributions to the college or university family.<sup>19</sup> It fosters cross-cultural sensitivity and understanding and seeks to develop a robust international and multiethnic community of scholars. It also provides for the exercise of a biblical concept of freedom within the framework of institutional identity and mission.<sup>20</sup> As a corollary, administrators endeavor to build capacity throughout the institution. This involves providing opportunities for professional development and personal growth. It also includes the development of leadership within the institution through mentoring and succession planning.

The ultimate aim is building community for the fulfillment of mission. When a cohesive community becomes focused on fulfilling mission, significant results are attained.

### Commitment to Engagement

With engagement as a priority, leadership, faculty, staff, and students strive to expand the presence and reputation of the college or university in the local community, as well as regionally and internationally, in a mission-directed way. To this end, the institution identifies and implements strategies to meet the needs and add value to the surrounding community and to its broader constituency. It organizes and hosts professional conferences and church-related events. It promotes Adventist edu-

## Recommendations for Additional Reading

Further readings on the distinctive nature of Seventh-day Adventist education include the following:

- Anderson, Shane. *How to Kill Adventist Education [and How to Give It a Fighting Chance!]*. Hagerstown, Md.: Review and Herald, 2009.
- Bietz, Gordon, and Steve Pawluk. *Seventh-day Adventist Higher Education in North America: Theological Perspectives and Current Issues*. Nampa, Idaho: Pacific Press, 2012.
- Gregorutti, Gus. “Adventist Higher Education in the 21st Century: Trends and Review of Its Purpose.” In *The End from the Beginning: Festschrift Honoring Merling Alomia*, edited by Benjamin Rojas, Teofilo Correa, Lael Caesar, and Joel Turpo. Lima, Peru: Universidad Peruana Union, 2015, 377-392.

• Knight, George R. *Myths in Adventism: An Interpretive Study of Ellen White, Education, and Related Issues*. Hagerstown, Md.: Review and Herald, 1999.

\_\_\_\_\_, “Redemptive Education Part I: A Philosophic Foundation,” *The Journal of Adventist Education* 73:1 (October/November 2010): 4-21: [http://circle.adventist.org/files/jae/en/en\\_covers/jae201073010419.pdf](http://circle.adventist.org/files/jae/en/en_covers/jae201073010419.pdf).

\_\_\_\_\_, “Redemptive Education Part II: Implications of Philosophy for Adventist Education,” *The Journal of Adventist Education* 73:1 (October/November 2010): 22-37: <http://circle.adventist.org/files/jae/en/jae201073012217.pdf>.

\_\_\_\_\_, “Redemptive Education Part III: Implications of Philosophy for Adventist Education, Continued,” *The Journal of Adventist Education* 73:1 (October/November 2010): 38-59: <http://circle.adventist.org/files/jae/en/jae201073013823.pdf>.

• McCoy, Terrell. *Why They Must Go: A Biblical Mandate for Seventh-day Adventist Education*. Bloomington, Ind.: iUniverse, 2011.

• Nelson, Andrew, and Reuben Manalaysay. *The Gist of Christian Education* [1971]. Available at <http://education.gc.adventist.org/documents/Gist%20of%20Christian%20Education%20Nelson%20Manalaysay.pdf>.

The following resources, among others, highlight what other Christian faith-based institutions are doing to define and maintain their religious identity, particularly in higher education:

- Astley, Jeff, Leslie Francis, John Sullivan, and Andrew Walker, eds. *The Idea of a Christian University: Essays on Theology and Higher Education*. Milton Keynes, England: Paternoster, 2004.
- Beers, Stephen., ed. *The Soul of a Chris-*

cation in partnership with other Seventh-day Adventist schools, colleges, and universities, contributing to a systems approach within Adventist education.

With a commitment to engagement, institutional leadership widens avenues for students, as well as faculty and staff, to engage in witness and service activities in local settings and beyond. Academic administration fosters service learning in courses and programs, while various entities within the institution promote volunteer service and community engagement through a variety of formats.<sup>21</sup> As a result, graduates understand that the purpose of life is to make a difference for God in the world.

Institutional leadership also endeavors to meet constituent needs through offering both formal and informal programs and courses. This implies conducting market surveys of needs and interests, as well as holding conversations with church leadership, especially that of the constituent fields. It may also suggest exploring innovative approaches for educational delivery.

Overall, a commitment to engagement affirms that the educational institution is a strategic partner in fulfilling the global mission of the Seventh-day Adventist Church.

### Commitment to Faith

In a Seventh-day Adventist college or university, the overarching priority is the commitment to faith. Thus, leadership upholds Scripture as the highest standard of the institution.<sup>22</sup> Faith is presented as the foundation for all disciplines and courses, the rationale for each initiative and program. Leaders pray fervently that the Spirit of God might pervade the cam-

pus and direct each activity and decision.<sup>23</sup> The result is an institutional community that seeks to fulfill the gospel commission and that upholds the beliefs and practices of the Seventh-day Adventist Church.

Throughout the institution there is an intentional and comprehensive focus on spiritual life. With the input of faculty, staff, and students, a spiritual master plan is carefully designed, implemented, evaluated, and frequently updated.<sup>24</sup> The focus is to strengthen faith through active spiritual programming and by involving students in spiritual leadership. The desired outcome is for students, as well as faculty and staff, to deepen their relationship with Christ,<sup>25</sup> commit themselves to the study of His Word,<sup>26</sup> experience life transformation,<sup>27</sup> and engage in the mission of the church through worship, witness, and service.<sup>28</sup> In essence, the school focuses on the formation of disciples, and, in turn, disciple-makers.

In their commitment to faith, leaders ensure that each area of the institution aligns with the distinctive, faith-focused mission of the school and, by extension, of the Seventh-day Adventist Church. Together, the institutional family explores and extends ways to nurture faith through teaching and learning, as well as through creative and scholarly activities. Ultimately, the spiritual and moral character of the institution is held as the defining measure of its success.<sup>29</sup>

### Conclusion

In order to fulfill its God-given purpose and effectively serve its constituency, a Seventh-day Adventist college or university

*tian University: A Field Guide for Educators.* Abilene, Texas: Abilene Christian University Press, 2008.

• Carpenter, Joel, Perry L. Glanzer, and Nicholas S. Lantinga, eds. *Christian Higher Education: A Global Reconnaissance.* Grand Rapids, Mich.: W. B. Eerdmans, 2014.

• Dockery, David S., and Gregory Alan Thornbury, eds. *Shaping a Christian Worldview: The Foundation of Christian Higher Education.* Nashville, Tenn.: B & H Publishing, 2002.

• Eaton, Philip W. *Engaging the Culture, Changing the World: The Christian University in a Post-Christian World.* Downers Grove, Ill.: InterVarsity Press, 2011.

• Holmes, Arthur F. *The Idea of a Christian College.* Grand Rapids, Mich.: W. B. Eerdmans, 1987.

• Litfin, Duane. *Conceiving the Christian College.* Grand Rapids, Mich.: W. B. Eerdmans, 2004.

• Longman, Karen A., ed. *Thriving in Lead-*

*ership: Strategies for Making a Difference in Christian Higher Education.* Abilene, Texas: Abilene Christian University Press, 2012.

The *Christian Higher Education* journal also provides relevant reading on the topic of the distinctive mission and traits of Christian tertiary education. See, for example, the following articles:

• Davignon, Phil, Perry Glanzer, and P. Jesse Rine, "Assessing the Denominational Identity of American Evangelical Colleges and Universities, Part III: The Student Experience," *Christian Higher Education* 12:5 (October 2013): 315-330. doi:10.1080/15363759.2013.825127.

• Dosen, Anthony J. "Maintaining Ecclesial Identity in Christian Higher Education: Some Thoughts from the Catholic Experience," *Christian Higher Education* 11:1 (Janu-

ary 2012): 28-43. doi:10.1080/15363759.2012.624444.

• Glanzer, Perry, P. Jesse Rine, and Phil Davignon. "Assessing the Denominational Identity of American Evangelical Colleges and Universities, Part I: Denominational Patronage and Institutional Policy," *Christian Higher Education* 12:3 (May 2013): 181-202. doi:10.1080/15363759.2013.785871.

• Hulme, Eileen E., David E. Groom, and Joseph M. Heltzel. "Reimagining Christian Higher Education," *Christian Higher Education* 15: Nos. 1, 2 (January 2016): 95-105. doi:10.1080/15363759.2016.1107348.

• Rine, P. Jesse, Perry Glanzer, and Phil Davignon. "Assessing the Denominational Identity of American Evangelical Colleges and Universities, Part II: Faculty Perspectives and Practices," *Christian Higher Education* 12:4 (July 2013): 243-265. doi:10.1080/15363759.2013.805996.

must develop a special character. It must be distinctive by design.<sup>30</sup> In this process, as we have noted, certain commitments are key.

In sum, the board of trustees, the administration, and the educational community at large must intentionally define the unique focus of the institution and clarify those defining characteristics that will set it apart from other institutions, public or private. The institution as a whole must commit to a spiritual understanding of excellence, where scholarship, teaching, and learning are Christ-centered, Bible-based, student-connected, and socially applied. The college or university must be a place where resources are focused on mission, where community is developed, and where the institutional family is engaged in witness and service.

Overall, an Adventist college or university must be a place where faith is affirmed,<sup>31</sup> where students are taught not only about God but by God.<sup>32</sup> It is insufficient for young people in an Adventist school to simply prepare for a profession or a career. They are candidates for heaven. Consequently, a Seventh-day Adventist college or university must provide young people with an education that is consistent with faith—that aligns with biblical principles and values, that develops a biblical worldview, and that forms character to endure the test of time.<sup>33</sup>

Authentic Seventh-day Adventist education is distinctive. As Seventh-day Adventist educators and leaders, we must value the genuine above the counterfeit, the true over a pretense. Will our students be taught of God? Will they be educated for eternity? Our choices today shape tomorrow. ✍

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#### NOTES AND REFERENCES

1. While this article focuses on higher education, much of the framework presented is not entirely unique to colleges and universities but may also find application in secondary, and perhaps elementary, schools.
2. Matthew 28:18-20.
3. Fulfilling mission in an Adventist college or university links plans and action to the mission of the institution, as well as to the mission and strategic priorities of the Seventh-day Adventist Church, with a special focus on the redemptive purpose of Adventist education. The mission of the Seventh-day Adventist Church may be found in the denomination's of-

ficial statements, "Mission Statement of the Seventh-day Adventist Church" (October 13, 2009) at <https://www.adventist.org/en/information/official-statements/statements/article/go/-/mission-statement-of-the-seventh-day-adventist-church/and> "Reach the World: Strategic Plan 2015-2020," available at <https://www.adventistarchives.org/reach-the-world-doc.pdf>.

4. See "Statement of Seventh-day Adventist Educational Philosophy," available at <http://education.gc.adventist.org/publications.html>, as well as a special issue of *The Journal of Adventist Education* 73:1 (October/November 2010) focusing on the philosophy of Adventist education, available at <http://jae.adventist.org>.

5. Significant trends may include, among others, increasingly diverse student bodies, an expansion of the modalities used in delivering education, expectations regarding financing opportunities, as well as the increasing secularization of higher education in contemporary society.

6. Luke 2:52, for example, states that Jesus Christ developed in four areas—"in wisdom and stature, and in favor with God and man" (NIV)—in essence, a whole-person development. In this vein, Ellen White wrote, "True education means more than the pursuit of a certain course of study. It means more than a preparation for the life that now is. It has to do with the whole being, and with the whole period of existence possible to man. It is the harmonious development of the physical, the mental, and the spiritual powers. It prepares the student for the joy of service in this world and for the higher joy of wider service in the world to come" (*Education* [Mountain View, Calif.: Pacific Press, 1903], 13).

7. When teaching, Jesus would often ask His students, "What do you think?" (e.g., Matthew 17:25; 18:12; 21:28; 22:42). Ellen White also emphasized the importance of high-level thinking: "Every human being, created in the image of God, is endowed with a power akin to that of the Creator—individuality, power to think and to do. . . . It is the work of true education to develop this power, to train the youth to be thinkers, and not mere reflectors of other people's thought" (*True Education* [Nampa, Idaho: Pacific Press, 2000], 12).

8. In Christ's parable of the house built on a rock contrasted with the structure built on sand (Matthew 7:24-27), the key was that one builder put knowledge into practice. See also Matthew 7:21.

9. See Proverbs 24:23; John 7:24; 2 Corinthians 10:12; and 1 Thesalonians 5:21.

10. See, for example, 1 Corinthians 2:12; 10:31; 2 Corinthians 10:5; and Colossians 3:17.

11. Character formation is highlighted in passages such as Ezekiel 44:23; Micah 6:8; Philippians 4:8; and 2 Peter 1:5-7. God as the Source of knowledge and truth is affirmed in Proverbs 2:6; 9:10; Daniel 2:21; John 1:17; and Colossians 2:2 and 3, among others.

12. Key beliefs such as Creation, The Nature of Humanity, The Great Controversy, The Sabbath, Stewardship, Marriage and the Family, and The Second Coming of Christ may be incorporated. For an overview of the 28 Fundamental Beliefs of the Seventh-day Adventist Church, see the Beliefs page on the Seventh-day Adventist Church Website at <https://www.adventist.org/en/beliefs/>.

13. Throughout the Bible, we find examples of research (e.g., Numbers 13:17-20; 1 Chronicles 26:31, 32; Esther 6:1; Job 29:16; Daniel 1:12-16; 9:2; and Acts 17:11), as well as research principles (e.g., Job 8:8; Ecclesiastes 7:25; Matthew 7:7). Scripture also presents cases of creative endeavor (e.g., Exodus 2:3, 4; 31:1-5; 1 Kings 3:16-28; Matthew 13:52; Mark 2:4; and Luke 19:4). Ellen White highlighted the importance of creative thought: "As you work, devise, and plan, new methods will continually present themselves to your mind, and by use the powers of your intellect will be increased" ("Go Ye Into All the World," *Review and Herald* [June 11, 1895]). "Whatever may have been your former practice, it is not necessary to repeat it again and again in the same way. God would have new and untried methods followed. Break in upon the people—surprise them" *Evangelism* ([Washington, D.C.: Review and Herald, 1946], 125).

14. Efficiency factors include the resourceful utilization of finance, personnel, and facilities, among others. Effectiveness is reviewed in terms of product quality and contribution to mission.

15. As leaders and educators, we must confront the question, "Where is the flock that was entrusted to you?" (Jeremiah 13:20). Unless otherwise designated, all Scripture passages in the article and end-



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16. See 1 Corinthians 6:19, 20; 10:31; and 3 John 2. Ellen White wrote, “When students leave college, they should have better health and a better understanding of the laws of life than when they entered it. The health should be as sacredly guarded as the character” (*Christian Education* [Battle Creek, Mich.: International Tract Society, 1894], 194).

17. At Creation, Adam and Eve were commissioned to serve and preserve the planet and all that was in it (Genesis 2:15). This is a divine assignment that has never been rescinded (see also Deuteronomy 20:19; John 6:12; and Revelation 11:18). The Seventh-day Adventist Church has issued official statements regarding the Christian responsibility of caring for the environment, such as the 1995 environment statement available at <https://www.adventist.org/en/information/official-statements/statements/article/go/0/environment/>.

18. A particularly important dimension involves the creation of community for first-year and transfer students, with a goal of enhancing student retention.

19. Ellen White wrote: “There is to be unity in diversity. This is God’s plan, the principle which runs through the entire universe. In God’s wise arrangement there is diversity, and yet He has so related each part to others, that all work in harmony to carry out His one great plan in extending the knowledge of God and of Jesus Christ whom He hath sent” (Letter 71, 1894). “In the work of soul saving, the Lord calls together laborers who have different plans and ideas and various methods of labor. But with this diversity of minds there is to be revealed a unity of purpose” (*Counsels to Parents, Teachers, and Students* [Mountain View, Calif.: Pacific Press, 1913], 531); see also Manuscript 67, 1897, paragraph 8; and Manuscript 71, 1903, paragraph 5.

20. When an orchestra performs a work, there are three liberties involved: First, the instrumentalist does not play mechanically, but rather has a certain freedom to perform as a professional musician. That liberty, however, must fall within the freedom of the conductor to indicate when to begin and end and, most importantly, how to interpret the work. The liberty of the conductor, however, respects and operates within the third freedom, that of the composer who incorporated intent in creating the composition and who expects that message to be faithfully conveyed. Similarly, in an educational setting, there are three fundamental liberties: that of the student to learn, of the teacher to teach, and of the institution to fulfill its mission.

21. See Matthew 10:8; 22:37-39; John 13:12-16, 34, 35; Acts 20:35; 1 Corinthians 13:2, 3; Galatians 5:13; Ephesians 4:28; Philippians 2:4; and 1 Peter 4:10. Ellen White emphasized: “The true object of education is to fit men and women for service” (*Counsels to Parents, Teachers, and Students*, 493). “Students . . . are not to look forward to a time, after the school term closes, when they will do some large work for God, but should study how, during their student life, to yoke up with Christ in unselfish service for others” (*ibid.*, 547).

22. “To the law and to the testimony! If they do not speak according to this word, it is because there is no light in them” (Isaiah 8:20, NKJV). Scripture taken from the New King James Version®. Copyright © 1982 by Thomas Nelson. Used by permission. All rights reserved. See also Deuteronomy 12:32; Matthew 4:4; 2 Timothy 3:16, 17; 2 Peter 1:19.

23. The presence and work of the Holy Spirit is essential. Christ stated, “But the Advocate, the Holy Spirit, whom the Father will send in my name, will teach you all things and will remind you of everything I have said to you” (John 14:26).

24. *Spiritual Master Planning: A Short Guide*

may be found at <http://education.gc.adventist.org/documents/Spiritual%20Master%20Planning%20Short%20Guide.pdf>.

25. See Hosea 11:4; Mark 3:14; John 15:4; James 4:8; and Revelation 3:20. Referencing this saving relationship, Ellen White wrote: “[R]edemption . . . is the object of education” (*Education*, 16). “The all-important thing should be the conversion of their students, that they may have a new heart and life. The object of the Great Teacher is the restoration of the image of God in the soul” (*Fundamentals of Christian Education* [Nashville, Tenn.: Southern Publishing, 1923], 436); see also *Education*, page 30.

26. See Psalm 119:105; John 5:39; 2 Timothy 3:16 and 17; and 2 Peter 1:19. Ellen White affirmed: “The word of God is the foundation of all true knowledge” (*Christian Education*, 82). Similarly, “The Bible should be made the foundation of study and of teaching. The essential knowledge is a knowledge of God and of Him whom He has sent” (*The Ministry of Healing* [Mountain View, Calif.: Pacific Press, 1905], 401); see also *Testimonies for the Church*, volume 6 (Mountain View, Calif.: Pacific Press, 1948), 198; *Counsels to Parents, Teachers, and Students*, pages 204 and 206; and *Fundamentals of Christian Education*, page 451.

27. Romans 12:2; 2 Corinthians 3:18; 5:17; Galatians 2:20; Ephesians 4:23, 24; Colossians 3:10; 1 Peter 2:21; 1 John 2:6.

28. 1 Chronicles 16:29; Psalm 95:6; Isaiah 43:10; Matthew 5:13-15; 18:20; 22:38, 39; 28:18-20; Galatians 5:13; and Hebrews 10:25.

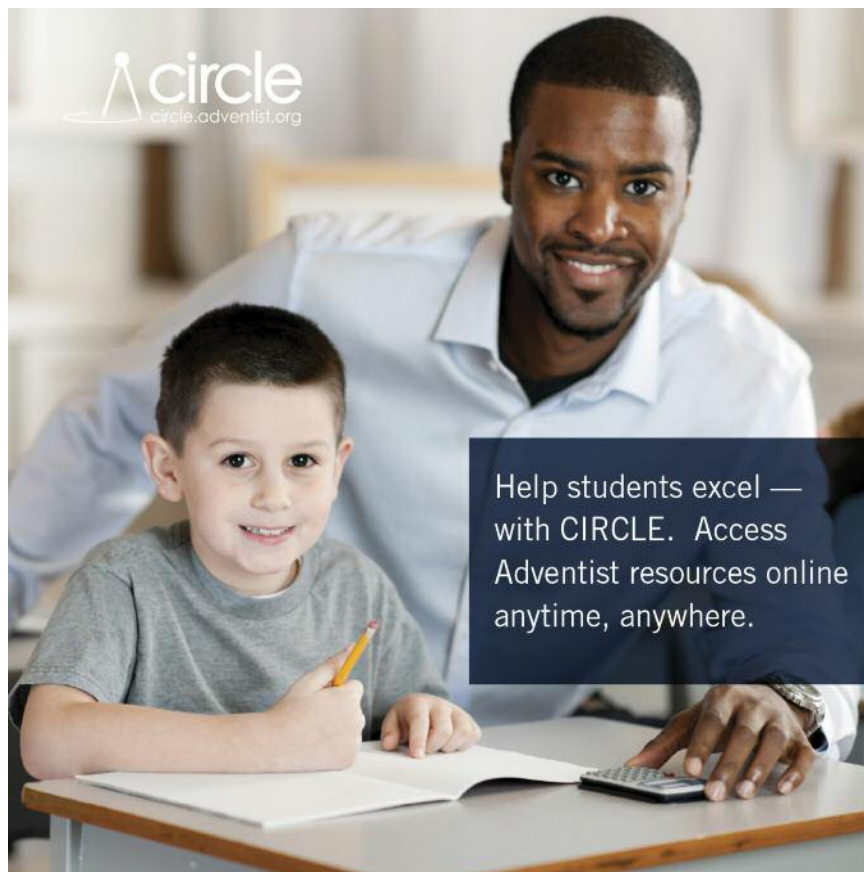
29. Ellen White observed, “If you lower the standard in order to secure popularity and an increase of numbers, and then make this increase a cause of rejoicing, you show great blindness. If numbers were evidence of success, Satan might claim the pre-eminence; for, in this world, his followers are largely in the majority. It is the degree of moral power pervading the College, that is a test of its prosperity” (*Christian Education*, 42).

30. See recommended reading list on pages 26 and 27.

31. Psalm 78:4 to 7, for example, states: “We will tell the next generation the praiseworthy deeds of the Lord, his power, and the wonders he has done. . . . Then they would put their trust in God.”

32. Isaiah 54:13. See also John 6:45; 2 Corinthians 5:20; and 1 Peter 4:11.

33. Psalm 144:12.





# Adventist COLLEGES

## and Universities and the Almighty Rankings

**A**dventist colleges and universities feel great pressure to attract more students in the ever-increasingly competitive environment of higher education. As they seek to distinguish themselves through accreditations, awards, and success of faculty, a new tool for showing a competitive edge has emerged: rankings. Various news outlets and Websites

rank United States (U.S.) and international universities.

This article reviews these rankings and some of the implications for Adventist colleges and universities. Therefore, two basic questions guide this analysis: First, do rankings really measure quality? And second, should Adventist institutions use these rankings to maintain and increase enrollment? Responding to these questions may have strategic implications for strengthening Adventist higher education.

### **The Almighty Rankings**

Over the past two decades, there has been an increasing trend to classify and rank higher education, and these classifications and rankings evaluate a wide variety of characteristics such as quality academics, cost, campus diversity, location, and research opportunities. This trend started in the United States with *U.S. News and World Report (USNWR)*,<sup>1</sup> and similar ranking systems have spread nationally and internation-

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ally. The first one to launch international comparisons was the Institute of Higher Education of Jiao Tong University in Shanghai, China, also known as The Shanghai Rankings, which publishes the *Academic Ranking of World Universities (ARWU)*. Other examples are the *Times Higher Education Rankings (2004)* and the *QS Stars University Rankings (2010)*.<sup>2</sup> Recently, the *U.S. News and World Report* has also created its own version of “World-Class Universities.” While the organization of these rankings varies in regard to the criteria they use, research productivity is a predominant measure in most of them.

These rankings have had a profound influence and a global impact amid a wide spectrum of reactions.<sup>3</sup> First, they have been assumed to be accurate measures of a good university.<sup>4</sup> Second, academic institutions use rankings to promote themselves. Third, policy makers have used rankings to advance policies, allocating more funding for institutions that engage in knowledge innovation to produce more jobs.<sup>5</sup> Several government assessment policies have stressed research productivity as a defining characteristic for flagship universities that strive for prominent positions.<sup>6</sup>

Now, back to the first question, can existing rankings be valid tools for assessing a university’s quality? What are some of the inconsistencies of these rankings?

### Challenges of Existing Rankings

It is important to clarify that rankings and evaluation are different concepts, although they are interconnected. When a university is assessed, it is measured against a set of benchmarks that an organization, such as an accrediting body, agrees to use for quality control. Academic programs within a university or the university on the whole may meet the assessed standards at varying degrees along a pass-fail continuum. Many of the evaluation indicators are qualitative and thus intended to guide institutions continuously toward complex views of

quality. Rankings also set quantitative indicators that allow comparisons of similar institutions. These benchmarks are combined into an index to rank institutions on a scale that can range, for instance, from 0 to 100.

Although rankings may be useful in determining how well institutions perform regionally or even internationally, they are controversial and far from being neutral. What kinds of indicators are used to rank universities? Tables 1 and 2 show a global view of parameters and their power within two very influential ranking scales.

In the case of *ARWU* (Table 1), most of its benchmarks are highly associated with research. Unfortunately, several studies have revealed important inconsistencies in the way criteria are chosen,<sup>7</sup> as well as inaccuracies in some indicators.<sup>8</sup> Univer-

sities may rank very differently depending on indicators and the weight given to each of them. The *Times Higher Education Ranking* and the *QS Stars University Rankings* are also very much oriented toward research, using it as their main quality indicator, although they have also added teaching, among other factors.

In the American context, the *U.S. News and World Report* also has a large set of undergraduate rankings that are different in many ways from the international ones. As shown in Table 2, research is not considered in ranking institutions. The whole ranking system hinges on reputation, selectivity, resources for faculty and students, graduation and retention, and alumni connection to the university.

Choosing and setting up quality indicators can be a problem for exist-

*Continued on page 33*

**Table 1. Criteria and Indicators for the Academic Ranking of World Universities (ARWU)\***

Criteria	Indicator	Code	Weight
Quality of education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
	Staff of an institution winning Nobel Prizes and Fields Medals (Not including Peace and Literature Prizes)	Award	20%
Quality of faculty	Highly cited researchers in 21 broad subject categories	HiCi	20%
	Papers published in <i>Nature</i> and <i>Science</i> (With different weights for order and repetition of affiliation)	N&S	20%
Research output	Papers indexed in <i>Science Citation Index-Expanded</i> and <i>Social Science Citation Index</i>	PUB	20%
	Per capita academic performance of an institution (the weighted scores of the above five indicators divided by the number of full-time equivalent academic staff)	PCP	10%
<b>Total</b>			<b>100%</b>

\*Developed from *Academic Ranking of World Universities Methodology* Webpage <http://www.shanghairanking.com/ARWU-Methodology-2012.html>.



**Table 2. Criteria and Indicators for Undergraduate Ranking Through *USNWR*\***

<b>Ranking Category</b>	<b>Category Weight</b> National & Regional Univ.; National & Regional Colleges	<b>Sub Factor</b>	<b>Sub Factor Weight</b> National Universities & Colleges	<b>Sub Factor Weight</b> Regional Universities & Colleges
Undergraduate academic reputation	22.5%	Peer assessment survey	66.7%	100%
		High school counselors' ratings	33.3%	0%
Student selectivity for fall 2013 entering class	12.5%	Acceptance rate	10%	10%
		High school class standing in top 10%	25%	0%
		High school class standing in top 25%	0%	25%
		Critical Reading and Math portions of the SAT and the composite ACT scores	65%	65%
Faculty resources for 2013-2014 academic year	20%	Faculty compensation	35%	35%
		Percent faculty with terminal degree in their field	15%	15%
		Percent faculty that is full time	5%	5%
		Student/faculty ratio	5%	5%
		Class size, 1-19 students	30%	30%
		Class size, 50+ students	10%	10%
Graduation and retention rates	22.5%	Average graduation rate	80%	80%
		Average freshman retention rate	20%	20%
Financial resources	10%	Financial resources per student	100%	100%
Alumni giving	5%	Average alumni giving rate	100%	100%
Graduation rate performance	7.5%	Graduation rate performance	100%	100%
Total	100%			

\* Developed from the ranking indicator weights table in Robert Morse and Eric Brooks, "Best Colleges Ranking Criteria and Weights," *U.S. News and World Report*, September 12, 2016, <http://www.usnews.com/education/best-colleges/articles/2014/09/08/best-colleges-ranking-criteria-and-weights>.

ing university models, since rankings reflect current patterns in tertiary education, and these patterns may not align with the mission of the college or university. This is not wrong if it is presented as one possible option and not as “the” model for postsecondary education quality. Why not? Several reasons, which include the following:

1. *Is this possible for all?* Although universities should promote and develop research, not all them have the resources to produce the most cited and selective journals or Nobel Prize-winning faculty, since that goal requires well-equipped and well-funded institutions. This is doable for universities that publish scholarly books or various journals in English, own the most advanced labs and research equipment, attract a wide range of the best national and international researchers and students, and have a strong institutional commitment to the applied sciences. How many institutions match such a description? Even in the United States, a front-runner country in rankings, only a few universities can really compete for the top positions.<sup>9</sup>

2. *What about different models of education?* There are thousands of training institutions that will not develop a mission that is oriented or designed to contribute through research and scientific discoveries. Is that incorrect or falling short? It all depends on the model and purposes of the institution. Adventist universities are good examples of institutions whose missions don't totally align with what rankings consider critical. Although research universities have a vital role in today's economy and social climate, one may ask, Is it possible and affordable for all Adventist universities to engage in these research-intensive activities? In addition, one major problem with rankings is that they tend to facilitate institutional isomorphism (copying one another) over universities that don't fit into this model and thus rank lower.<sup>10</sup> This has important practical implications that may blur some of the purposes of Adventist higher education.

3. *What about other indicators of performance?* Most influential rankings don't take into account community engagement, learning outcomes, and graduates' impact on society, to mention a few. These are very important components that reflect universities' missions. While universities are undoubtedly places that prepare professionals who can contribute to their disciplines, they should also strive to instill in their students the values that will impact their communities, improving them through not only discoveries but also technological innovation. Kronman<sup>11</sup> argues that the vast majority of universities in the United States have lost the dimension of “the meaning of life.” That is, they have become professional training schools disregarding other important aspects of education, such as inculcating spiritual and moral values. Many of the institutions that do not appear in any ranking contribute to their communities in countless unclassified ways.<sup>12</sup> For instance, they function as social “equalizers” by giving opportunities to poor and undereducated students to become middle-class professionals. Like many other small institutions, Adventist universities fulfill this role.

It is important to underscore that in many cases, organizations that report rankings are built as businesses. For example, magazines such as *U.S. News and World Report* sell more ads, get more exposure, and attract more external funding as they attract the attention of students, parents, and universities. Institutions search for ways to differentiate. Parents and students, concerned with the tuition they are about to pay, are looking for indicators that would enable them to make the best decision or, as frequently expressed, investment. Ranking managers know this and work hard to respond to these concerns. The strategies seem to work, at least for now.

## How to React

What can Adventist colleges and universities do to handle these powerful forces? In order to respond to these increasing demands for evidences of quality, it is important to put rankings into perspective and see how they really affect institutions in relation to (1) students' decisions and (2) institutional strategy.

*Students' decisions.* The American Council of Education (ACE) recently released a comprehensive study<sup>13</sup> that makes it possible to observe different patterns of students' decision-making, and this can help colleges and universities develop proactive strategies. Some of the key findings are summarized as follows:

1. Type and quantity of students using the rankings. The report showed that according to some early studies, rankings were important for students from high-income families with Asian-American backgrounds, and whose parents have college degrees. These students were high achieving, tended to apply to several institutions, and were more likely to attend selective universities. So, the most-qualified applicants were more prone to search for top-ranked institutions. This research confirms that selective and wealthy institutions attract students who match their profile.

However, in a recent study seeking to determine how influential rankings are, the Higher Education Research Institute at University of California (UCLA), Los Angeles, revealed that only about a quarter of students reported that rankings were very important to them. In addition, the ACE report quoted several studies showing that of the 70 percent of high-achieving students who checked rankings, only about half of them made decisions based on them. It seems not even the majority of the brightest students are really guiding their choices according to the highly visible rankings.

2. What drives students' decisions? Although rankings and prestige have an influence, the ACE report underscores the importance of educational

aspirations, involvement and communication with parents, peers, networks, and financial aid offered at universities in informing students' decisions about where to enroll. This is also true for low-income students who represent a significant percentage of those who enroll in many Adventist universities.<sup>14</sup> This group was more likely, according to the study, to make a decision and to enroll in a school based on family support, high school counselors, university representatives, and information obtained through publications and Websites. For this group, cost and location were crucial factors in selecting a university. The same was true for highly qualified low-income students from various cultural and racial backgrounds. The availability of information and strong communication with prospective students seemed to be central to their enrolling in a program.

In short, as the ACE report asserts: "Based on newly updated data from the Higher Education Research Institute (HERI)—rankings are not a driving factor in student decisions on which institution to attend, and are even less relevant for students from low-income backgrounds. More salient influences include family involvement and encouragement, peer and other networks, and school- and higher education institution-based resources, including those that are semi-customized."<sup>15</sup>

It is clear that rankings do help institutions, to some degree, to attract and enroll students. However, as described above, other important factors may be significantly more influential. This gives Adventist colleges and universities a window of hope.

*Institutional strategy.* Is there any value for Adventist education in these rankings? How might colleges and universities benefit from them? Institutions may ponder this question from at least three broad perspectives, namely: (1) accepting rankings as an accurate measure of quality; (2) rejecting rankings as irrelevant;

and (3) evaluating them carefully and using their results in responsible ways. The first and second options denote a lack of understanding of how rankings work and influence people and institutions. The third option provides a wiser approach. This means that while universities may not agree with all the indicators and the overall results, they can judiciously utilize them as marketing tools. Schools can thus improve their rank or position by endorsing a pro-

active strategy to advance some indicators that are aligned with their institutional mission. For instance, improving graduation and retention rates (see Table 2) is an important rating factor in the *USNWR* and also represents a very positive outcome for any college. The same is true of alumni giving and expansion of research. Other indicators may be more controversial, such as selectivity. For

## Box 1. Examples of College and University Ranking Organizations

### ***The Academic Ranking of World Universities (ARWU)***

<http://www.shanghairanking.com/>

First published in June 2003, *ARWU* was created by Shanghai Jiao Tong University to compare China's universities to international competitors. Six ranking indicators include the number of Nobel Prizes and Field Medals won by faculty and staff, highly cited researchers, articles published in journals such as *Nature* and *Science*, number of articles indexed in a *Science Citation Index–Expanded*, and per capita performance of a university. *ARWU* introduced the field of global comparisons rankings and is published and copyrighted by Shanghai Ranking Consultancy, an independent organization.

### ***QS World University Rankings***

<http://www.topuniversities.com/qs-world-university-rankings>

*QS World University Rankings*<sup>®</sup>, launched in 2004, publishes annual rankings for the top 600 universities in the world. Four key indicators include research, teaching, employability, and internationalization (international faculty and students). The rankings are governed by an independent, international advisory.

### ***Times Higher Education World University Rankings***

<https://www.timeshighereducation.com/>

The *Times Higher Education [THE] World University Rankings*, founded in 2004, ranks the world's global universities across key indicators such as teaching, research, international outlook, reputation and more. *THE*, first published from 1971 to 2008 as *Times Higher Education Supplement [THES]*, and since 2008 as *THE*, is published by a subsidiary of Rupert Murdoch's News International.

### ***U. S. News and World Report (USNWR)***

<http://www.usnews.com/rankings>

Compiled by the editors of *U.S. News and World Report*<sup>®</sup>, this magazine published the first ranking of undergraduate programs in 1983. Expanded to include rankings of medical, engineering, law, and business schools, *USNWR* provides one of the most widely circulated and well-known college and university ranking systems. Raters include presidents, academic deans, and admissions officers.



example, in the United States, every institution wants the best possible students, but screening them based mainly on ACT and SAT scores may not be quite fair. Alternative and complementary practices can produce better results in the long run if the goal is to serve the Adventist constituency. In the end, this is an institutional choice.

Another practical way for institutions to use rankings to their advantage is by reporting on brochures and webpages any aspect of an awarded or ranked program that showcases the unique characteristics of the institution. This is also useful for schools that are unable to get ranked in an overall position through a ranking system. Likewise, the use of different types of rankings derived from a wide range of quality criteria is beneficial. In other words, what is not visible here may be visible over there!

In addition, universities can develop unconventional strategies to “counterbalance” some of the negative perceptions fostered by rankings. Through a Webpage and/or promotional brochures, for instance, institutions can describe how rankings are developed and the criteria they use to assess quality. This will enable them to explain and promote the “plus” factors inherent in Adventist higher education. Some institutions may advance this as a key strategy. It can be called “in-addition quality criteria” for potential students. Some potential areas schools may want to emphasize are as follows:

1. *Purpose.* The mission of Adventist education is not only to prepare people for employment and economic success but also to inculcate a Christian worldview. Adventist education does not reject the spiritual dimension of learning because it is difficult to measure scientifically. It exposes students to every element of reality and seeks to develop well-rounded persons who embrace a biblical worldview cultivated through experiences such as chapel services, seminars, church services, worship services, small classes, and personal

attention from professors. To successfully embrace and decide to integrate into their lives what the Bible endorses, students need a personal relationship with God. The ultimate goal is redemptive. In this process of developing character, young people embrace values that impact their subsequent professional practices and lifestyle. Accordingly, Adventist schools offer their students guidance in integrating their personal and professional values. Thus, the purpose of Adventist education can be equated to helping students to develop a worldview that influences all of their personal and professional dimensions. Public universities also look for ways to impact their students, but the focus tends to be on humanistic approaches that lead to an overemphasis on research and professional products as the future for students and society. Adventist higher education offers a significant difference!

2. *Curriculum.* Secular universities integrate literature and knowledge with materialistic approaches, which means that the guidance conveyed by sacred books, such as the Bible, has been neglected due to the focus on scientific and humanistic arguments. However, these works should be studied as a source of wisdom for life. In the Adventist college or university, the curriculum blends science and faith in a complementary way rather than excluding any legitimate source of information. Also, faith is integrated into all subjects taught within the curriculum, providing students with multiple opportunities to grow in their understanding of how faith impacts their decisions and choices. Involvement in academic and co-curricular activities reinforces the centrality of a student’s personal relationship with God. This approach helps students to become wiser, impacting their personal lives and professional growth. Ellen White emphasized this saying, “The strength of our college is in keeping the religious element in the ascendancy.”<sup>16</sup> Through curriculum, Adventist col-

leges and universities have the opportunity to create environments where students can experience the renewal of mind and can understand and act based on biblical assumptions through a personal relationship with God.

3. *Teaching.* Faculty members play a key role not only through what they teach but also through what they represent in their own lives as active Christians. Thus, professors must embody the institutional mission to avoid sending double messages to students who are seeking role models based on living examples. They should mentor and counsel students throughout the learning processes, helping them to adjust to real life and encouraging them to give their hearts to Christ. At the same time, these professors ought to be highly regarded professionals who contribute to their specific professional and academic community and foster academic excellence in their students.

4. *Students.* Most students recognize the importance of a spiritual dimension of their lives and want to enhance it through interactions with instructors, friends, and cocurricular experiences such as worship and chapel services offered by their college or university. Higher education enables students to modify their understanding of personal and professional needs and to adjust to new challenges. All this happens in the context of the disciplinary field they have chosen, enriching their future career performance. Students should leave the university with a clear sense of personal mission based on a biblical worldview and a commitment to service within their professions. This will give graduates a moral backbone that is essential for current society and the economy, as well as an involvement with the gospel commission.<sup>17</sup>

5. *Interaction with culture.* Adventist colleges and universities must strive to position themselves as regional, national, or even international advocates for a proactive vision of the paradigm they embrace. By producing positive changes in students and communities, universities become organi-

zations that have scientific and social impact. Ultimately, these institutions become a counterculture that seeks to influence all dimensions of human endeavor.

All of these are some of the real contributions that most Adventist colleges and universities make and may, in many cases, go unnoticed by potential students and constituents. So, with examples and cases to illustrate the “in-addition quality criteria,” institutions can better demonstrate quality.

### Final Thoughts

Although the number of rankings is growing and these comparisons are impacting Adventist colleges and universities all over the world, there is also evidence that institutions can develop their own models and strategies for attracting new students. The pressure to “fit in” is great and can distort the essential paradigms and mission that provide the rationale for operating a college or university, such as the ones operated by the Adventist Church.<sup>18</sup> There is a need to make explicit how rankings can serve as strong and strategic marketing tools to connect with prospective students. Perhaps the biggest challenge Adventist colleges and universities face is to know precisely how to deal with pressures to “align” with the dominant trends and remain relevant without compromising their essential features. ✍

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### NOTES AND REFERENCES

1. *U.S. News and World Report (USNWR)* began its annual college ranking in the early 1980s. For more information, see “About U.S. News & World Report,” *U.S. News & World Report*: <http://www.usnews.com/info/features/about-usnews?int=a60f09>.

2. *Times Higher Education World University Rankings* and *QS Stars University Rankings* were partners, but they split in 2010, and *QS Stars* has started its own classification.

3. Simon Marginson and Marijk van der Wende, “To Rank or to Be Ranked: The Impact of Global Rankings in Higher Education,” *Journal of Studies in International Education* 11:3/4 (Fall/Winter 2007): 306-329. doi:10.1177/1028315307303544.

4. E. Anthon Eff, Christopher C. Klein, and Reuben Kyle, “Identifying the Best Buys in U.S. Higher Education,” *Research in Higher Education* 53:8 (December 2012): 860-887. doi:10.1007/s11162-012-9259-2.

5. Andrejs Rauhvargers, *Global University Rankings and Their Impact: EUA Report on Rankings* (Brussels: European University Association, 2011).

6. Anthony F. J. van Raan, “Fatal Attraction: Conceptual and Methodological Problems in the Ranking of Universities by Bibliometric Methods,” *Scientometrics* 62:1 (2005): 133-143.

7. Robert B. Archibald and David H. Feldman, “Graduation Rates and Accountability: Regressions versus Production Frontiers,” *Research in Higher Education* 49:1 (February 2008): 80-100. doi:10.1007/s11162-007-9063-6; John F. Burness, “The Rankings Game: Who’s Playing Whom?” *The Chronicle of Higher Education* 55:2 (September 2008): A80; James E. Eckles, “Evaluating the Efficiency of Top Liberal Arts Colleges,” *Research in Higher Education* 51:3 (May 2010): 266-293. doi:10.1007/s11162-009-9157-4.

8. Mu-Hsuan Huang, “A Comparison of Three Major Academic Rankings for World Universities: From a Research Evaluation

Perspective,” *Journal of Library and Information Studies* 9:1 (June 2011): 1-25.

9. Ellen Hazelkorn, *Rankings and the Reshaping of Higher Education: The Battle for World-Class Excellence*, 2nd ed. (Basingstoke, GBR: Palgrave Macmillan, 2015).

10. Gustavo Gregorutti, *Following the Path from Teaching to Research University: Increasing Knowledge Productivity* (Newcastle, U.K.: Cambridge Scholars Publishing, 2011).

11. Anthony T. Kronman, *Education’s End: Why Our Colleges and Universities Have Given Up on the Meaning of Life* (New Haven, Conn.: Yale University Press, 2007).

12. For more details, see Catherine Rampell, “Top Colleges for Producing Graduates Who Make the World a Better Place,” *The Washington Post* (September 11, 2014): [https://www.washingtonpost.com/news/rampage/wp/2014/09/11/top-colleges-for-producing-graduates-who-make-the-world-a-better-place/?utm\\_term=.e954a45f99a1](https://www.washingtonpost.com/news/rampage/wp/2014/09/11/top-colleges-for-producing-graduates-who-make-the-world-a-better-place/?utm_term=.e954a45f99a1).

13. The Cooperative Institutional Research Program (CIRP), part of the Higher Education Research Council, has conducted the most comprehensive, empirical national longitudinal study of American higher education, collecting data from over 1,900 institutions, 15 million students, and more than 300,000 faculty, since 1973 (Lorelle L. Espinosa, Jennifer R. Crandall, and Malika Tukibayeva, *Rankings, Institutional Behavior, and College and University Choice Framing the National Dialogue on Obama’s Ratings Plan* [Washington, D.C.: American Council on Education, 2014]).

14. *Ibid.*, 2.

15. *Ibid.*

16. Ellen G. White, *Testimonies for the Church* (Mountain View, Calif.: Pacific Press Publishing Association, 1948), vol. 5, 14.

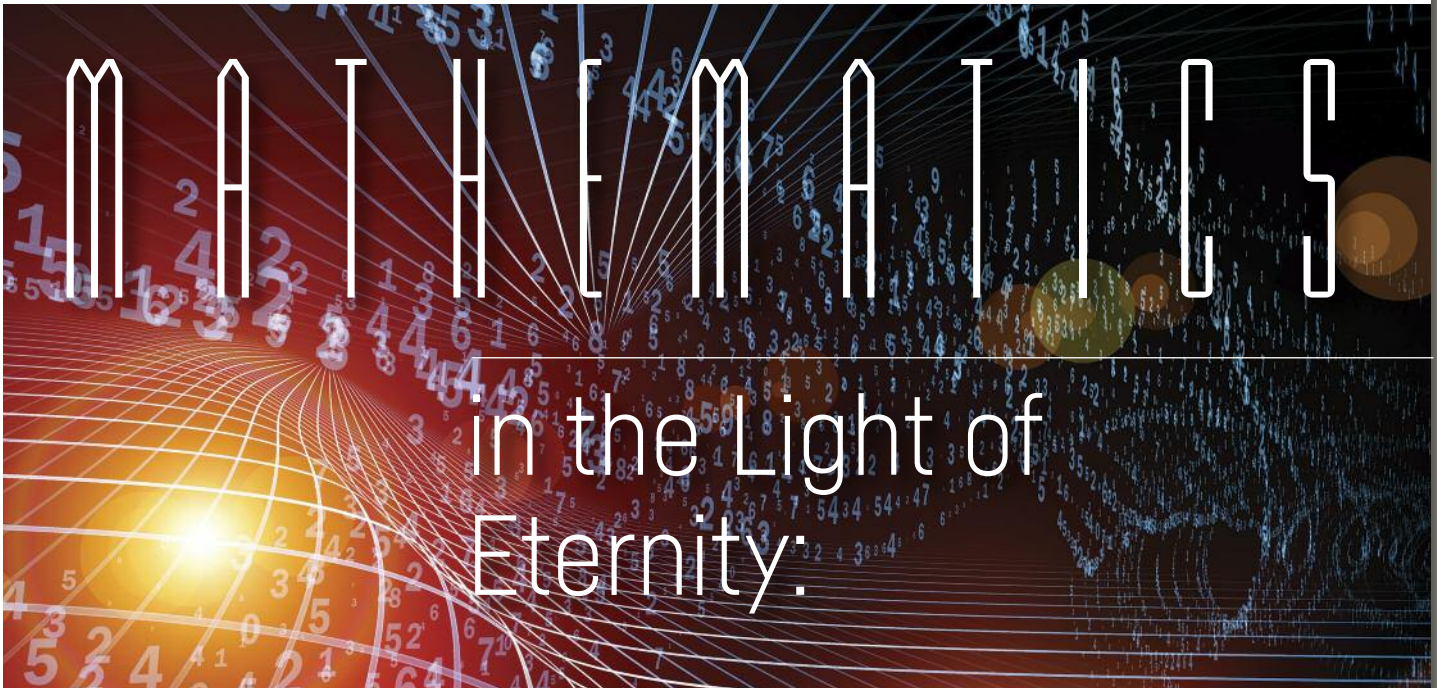
17. George R. Knight, “Adventist Education and the Apocalyptic Vision, Part II,” *The Journal of Adventist Education* 69:5 (Summer 2007): 4-9.

18. Gregorutti, *Following the Path*.





Anthony Bosman



Pythagoras, born on the Greek island of Samos in the sixth century BC, devoted his early life to traveling and learning. He studied with Mesopotamian astronomers and traveled to Egypt, where he learned mathematics from the priests. It is speculated that he made it as far as India, bringing together the mathematical findings from these diverse cultures. He is credited for providing the first proof of the Pythagorean Theorem, which relates to the side lengths of a right-angled triangle.

Pythagoras's experience is a testament to how mathematics can transcend otherwise competing worldviews. In my own experience (currently approaching the completion of my doctorate in mathematics), I've studied with mathematicians on three continents and with colleagues representing nearly

## Toward an Adventist Understanding of Mathematics

every major worldview and religion. The mathematics community takes great pride in how our ancient discipline has been a meeting point for individuals throughout the world.

Consequently, we may be tempted to believe that since mathematical truths appear independent from one's religious commitment, there is little motivation for a person of faith to integrate his or her faith with the study of mathematics. History, though, tells another story. Pythagoras developed quite a following of disciples, who

formed a religion around mathematics, believing numbers to have divine features, especially those with interesting mathematical properties. Plato, the great Greek philosopher who influenced so much Western thought, made mathematics central to his ontology and epistemology, believing that mathematical objects were eternal entities and that studying them was the best way to draw the soul toward truth.<sup>1</sup> And it was no accident that many later philosophers and theologians, such as Pascal and Descartes, doubled as mathematicians. Kant made Euclidian geometry so fundamental to his theory of knowledge that the discovery of non-Euclidian geometry the following century, despite being a purely mathematical discovery, posed a greater challenge to his arguments than any philosophical critique.<sup>2</sup>



Why the interest of philosophers and theologians in mathematics? Because of their interest in understanding the nature of reality (and how human beings can come to a knowledge of reality), and because mathematics has demonstrated itself to be the most reliable tool in studying the natural world. More than that, though, mathematics is unique because it appears to offer certainty in the form of proof. Scientific theories and historical study, while helpful, remain open to revision, while mathematics alone appears to ground truth on irrefutable deductive proof.

### Mathematics and Adventism

Enter Adventism. At the heart of Adventism are radical claims about the nature of reality and the Source of true knowledge. We've built a global educational system that teaches students to learn in the light of eternity: to make God's revelation in Scripture the foundation of their learning, to understand the natural sciences as testifying of a majestic and loving Creator, to see history as leading to a great climax in Christ's return, to value the human body as the temple of the Holy Spirit, and to discover the joy of service.

What of mathematics? How does Adventism speak to this subject? We ought to seriously wrestle with this question; in fact, we're commanded to: "Love the Lord your God . . . with all your mind" (Matthew 22:37, NKJV).<sup>3</sup> "All" includes math, especially for those of us who spend a great deal of time studying and teaching mathematics.

The mathematics standards for Adventist education include the goal to "help students learn to see and reflect God's image while developing proficiency in different aspects of mathematics" by coming to "recognize God as Creator and Sustainer of an ordered universe."<sup>4</sup> Noble goals, but what does being made in God's image or recognizing God as Creator have to do with mathematics? Indeed, until we answer that question and are able to make it clear in the minds of students, can we

really consider mathematics education part of Adventist education?

There are two ways we commonly think about mathematics. The first is to treat it as merely a useful tool for being productive in society and appreciating the structure of the created world. Scripture commands us to pay taxes and points us to the heavens to see God's glory on display—since mathematics is essential to these tasks, we conclude that we've integrated the discipline. Indeed, mathematics is an incredibly useful tool for these tasks, but what value does this leave for studying mathematics in its own right?

For instance, Pierre de Fermat claimed that there exist no integers  $a$ ,  $b$ , and  $c$  that satisfy the equation  $a^n + b^n = c^n$  where  $n \geq 3$  (there are many solutions for  $n = 2$  such as  $3^2 + 4^2 = 5^2$ ). After 300 years of failed attempts to prove this theorem of Fermat, mathematicians finally succeeded. Is this accomplishment valuable in itself? Or does this work remain devoid of meaning until one can apply the mathematical result to understanding some natural phenomenon? And how do we answer the student who asks *why* mathematics is so adept at explaining the natural world?

The second approach attempts to answer the question of *why* we should value mathematics by sweeping mathematics in with the natural sciences, suggesting that mathematical objects, such as numbers, sets, and functions, are just as much a part of God's creation as are rocks, trees, or galaxies. Do we want our students to think of numbers as a part of God's creation? If so, do we teach that God created the integers first, then the rationals, followed by the irrationals? What about the imaginary numbers? The Adventist mathematics standards appear to endorse this view when they include the goal of teaching students to appreciate "God's gift of the number system."<sup>5</sup> Referring to the number system as "God's gift" leads students to believe God established the Peano axioms, the foundation of arithmetic, just as surely as He gave the commandments to Moses.

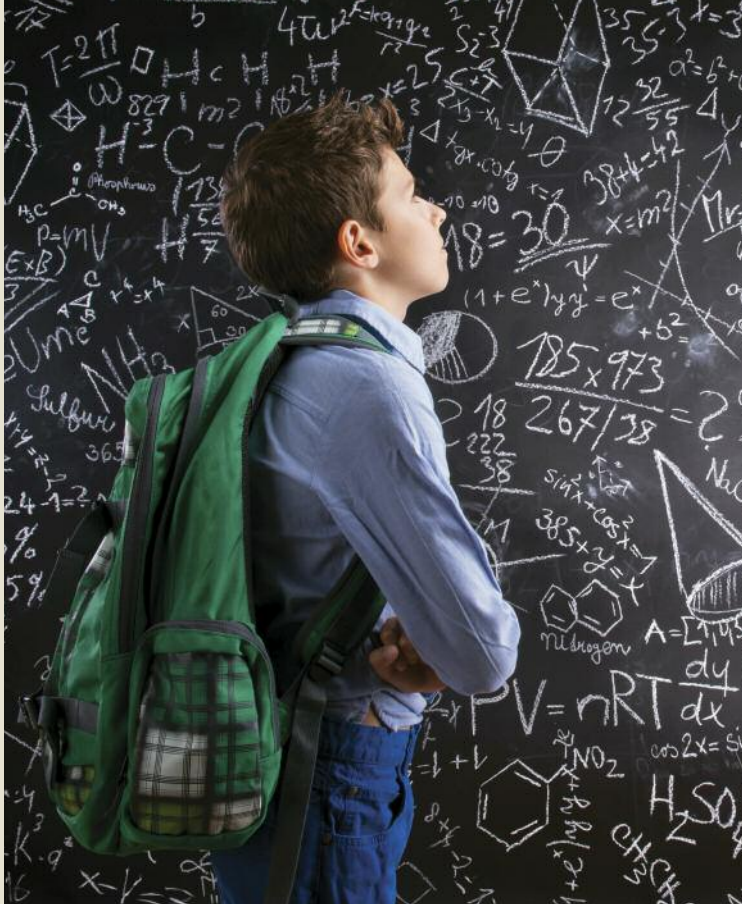
Are we committed to that position?

Perhaps God Himself is a mathematician! Galileo suggested God created the universe using the language of mathematics, and hence mathematical objects are really the thoughts of God or objects existing in the mind of God. This can be seen as a theistic repackaging of Plato's view that mathematical objects exist among the eternal, unchanging "forms" that can be accessed by properly trained reasoning. But Christians would do well to give some thoughtful consideration before embracing this view, for the New Testament rejects reason as sufficient means to discern God's thoughts.<sup>6</sup> Do we want to teach that mathematical proof is a means for us to access God's mind?

In the rest of this article, I offer insight into how I've come to understand the nature and value of doing and teaching mathematics from an Adventist perspective. I must admit, many of these are still live questions that I fully expect to continue engaging with throughout my life. My prayer is that this article will help to generate some meaningful dialogue and future scholarship. Ultimately, I hope to see a generation of students whose faith in Christ serves as a motivation to seriously study mathematics and whose enjoyment of mathematics strengthens their love for God.

### Mathematics and Reality

Despite the rich history of mathematics, we are still without a historical consensus regarding what mathematics is or why it works. Many have taken the view of Godfrey Hardy that "mathematical reality lies outside of us, that our function is to discover or *observe* it, and that the theorems which we prove, and which we describe grandiloquently as our 'creations,' are simply our notes of our observations."<sup>7</sup> Certainly, we often speak of mathematical objects as if they are real objects that exist somewhere, but this view introduces the very hard questions of where this mathematical



reality actually exists and why logical proof is our means of observing it.

Others, especially more recently, have argued that mathematics is less like the natural sciences and more like the arts; that is, mathematical theorems aren't discovered, they're created. This allows us to understand Karl Weierstrass's statement that "the true mathematician is a poet."<sup>8</sup> While capturing the sense of creativity present in producing modern mathematics, the idea that mathematics is entirely a human construct faces some serious challenges that are well communicated by Eugene Wigner in his remarkable paper *The Unreasonable Effectiveness of Mathematics in the Natural Sciences*. First Wigner observes, "The great mathematician fully, almost ruthlessly, exploits the domain of permissible reasoning and skirts the impermissible. That his recklessness does not lead him into a morass of contradictions is a miracle in itself: certainly it is hard to believe that our reasoning power was brought, by Darwin's process of natural selection, to the perfection

which it seems to possess."<sup>9</sup>

In creative endeavors, especially those undertaken by a large number of people, it is important to have a clear map of where one is going. We produce blueprints and models before building skyscrapers. But it appears mathematics has been a reckless addition of rooms and floors that, rather than producing incoherence, has consistently yielded results that the scientific community describes as surprisingly elegant and beautiful. For instance, there was no guarantee that the risky move of extending the real numbers to the complex numbers by defining  $i = \sqrt{-1}$  would enrich the field. And yet, rather than lead to a logical contradiction, it made possible the discovery of beautiful and altogether surprising relationships, such as Euler's formula  $e^{i\pi} + 1 = 0$ . It is difficult to avoid the impression that such relationships are just waiting to be found.

Wigner went on to make the case that not only is mathematics surpris-

ingly internally coherent, but it is unreasonably good at explaining the natural world. He noted that although mathematics may have been quite grounded in physical problems centuries ago when there was little distinction between a mathematician and a physicist, beginning in the 19th century, mathematics became an abstract discipline, quite detached from the world the mathematicians inhabited. For instance, complex numbers are widely considered essential for modern formulations of quantum mechanics, although the introduction of  $i$  was made entirely independently of natural consideration.

Or consider Euclidean geometry, which was built up from a foundation of five intuitive axioms that were very much grounded in the physical world. Mathematicians long struggled to show that the fifth axiom, which deals with properties of parallel lines and is more complicated than the rest, was a logical consequence of the first four axioms. However, they eventually discovered that it is logically independent from the other axioms and could be modified without contradicting the other axioms.

Hence, simply out of curiosity, in the 19th century they did precisely that. The result is what we call non-Euclidean geometries—descriptions of space that seem altogether counterintuitive. The common consensus was that the mathematicians were just playing games and that there was no real-world use for this work, but the 20th century's discovery of relativity and the curvature of space-time revealed that non-Euclidean geometry is precisely what we need to best describe our universe.<sup>10</sup>

Reflecting on this history, and several other similar episodes, Wigner concluded, "The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift which we neither understand nor deserve."<sup>11</sup>

Wigner's mystery is threefold: Why are we capable of doing mathematics, why is there a deep structure to the

universe, and why does mathematics explain this structure so well? Here, the Christian worldview is particularly well suited to provide a compelling framework to make sense of these miracles.

### Mathematics and Creation

We begin with Creation. As theoretical physicist and theologian J. C. Polkinghorne explains, “If the world is the creation of the rational God, and if we are creatures made in the divine image, then it is entirely understandable that there is an order in the universe that is deeply accessible to our minds.”<sup>12</sup> This explains why so many pioneers in modern science and mathematics, such as Newton, understood their faith to be the great motivation for the work they were doing. Morris Kline, in his history of mathematics, argues that they were acting from that conviction that “God had designed the universe, and it was to be expected that all phenomena of nature would follow one master plan. One mind designing a universe would almost surely have employed one set of basic principles to govern related phenomena.”<sup>13</sup>

Recognizing the value that the doctrine of Creation has had in advancing the mathematical sciences, it is prudent to review the Creation account in hopes of better understanding the nature of mathematics. Genesis opens with God creating the world, giving it structure, and moving it from a state of confusion to one of order. After humans—both male and female—are made in the image of God, they are then given a mandate to participate in creation: to extend creation (“Be fruitful and multiply”) and rule over the creation (“have dominion”; Genesis 1:28). God creates animals, Adam names them; God creates a garden, the first couple are told to cultivate it. Thus we find a picture of human and divine cooperation in caring for and extending creation.

In our brief survey of the philosophy of mathematics above, we noted that there is good reason to think of

In the mathematics community, we often regard the discovery of a great theorem as a means of immortalization; instead, Christian students should be taught that such intellectual accomplishments are to be laid in reverent awe at the feet of the One who alone has immortality. Rather than producing pride, mathematical discovery ought to lead the individual to worship.

mathematics as a process of both discovery and creation, although either account faces challenges on its own. The Genesis image of humanity being created to care for a garden serves as a rich model to resolve this tension. A garden is both discovered and created. The plants present existed in nature already, but the way in which they are brought together, arranged, and cultivated reflects the creativity of the human gardeners.

A similar story can be told of mathematics: We begin with ideas that appear very naturally within God’s creation, and then, as image-bearers, we interact with creation by rationally extending these ideas. Having been made in the image of the One who made the cosmos, we quite expect some form of correspondence between the mathematical notions we develop and the structure we discover in the natural world, but we also expect our mathematics to reflect the people and societies that developed them.

Mathematics thus resists being classified as either a natural science or a creative art because it is both. The 19th-century mathematician Leopold Kronecker reportedly believed that “God made the integers, all the rest is the work of man.”<sup>14</sup> However we choose to frame it, we should teach

our students that the ability to do mathematics is part of what it means to be made in the image of God. In this sense, it is an incredibly powerful God-given gift, but the development of mathematics also reflects human creativity. The theorems of higher mathematics were not present before the foundation of the world; rather, humanity has been gifted freedom in how we extend the field via the mathematical definitions we choose and axioms we fix, just as a musician has freedom in the songs he or she writes, while still respecting fixed rules.

Some have sought to make a distinction between pure and applied mathematics, and while such a distinction of terms proves useful at times, it is rather difficult to draw that dividing line. As we noted above, a mathematician may pursue a line of study simply to satisfy mathematical curiosity, but often the notions he or she develops are later realized to be precisely the tools needed to describe some natural phenomena. My own area of mathematics research, knot theory, was completely pure for nearly the first century of its development, but in recent decades, a number of un-



expected applications to biology and physics have been discovered. The truth that a mathematician seeks simply for its beauty or elegance is seen to occupy and describe creation, bearing witness to creation's good Creator.

But, one may ask, must mathematics find an application to the natural world to be considered valuable? Here again, Genesis's garden is helpful. Bearing fruit was not the only purpose of its trees—they are also described as being beautiful (Genesis 2:9). Beauty was valued in God's original creation independent of any utilitarian purpose. Humanity was designed to do more than just survive; our gardens grow both fruit to feed us and flowers to be enjoyed. Similarly, the value of mathematics can be found in both its usefulness and its beauty.

### Mathematics and Eternity

A picture is beginning to emerge of how mathematics draws us back to our beginnings, reminding us of our role as image bearers of a good Creator. A proverb of Solomon states, "It is the glory of God to conceal a matter, But the glory of kings is to search out a matter" (Proverbs 25:2). Elsewhere, Solomon reminds us that eternity has been placed on the human heart (Ecclesiastes 3:11). In studying, learning, and searching out those concealed things and being exposed to fields of never-ending discovery and development, the desire for eternity is awakened in the human heart. Mathematics, in particular, seems to endear humans to the hope of eternity.

The New Testament closes with the vision of Christ restoring creation in new heavens and a new earth. Here it is recorded that the glory of God will illuminate the city, and the kings of the earth will bring their glory into the city where Christ dwells with His people (Revelation 21:23-26). While *glory* is a broad term, one of the few other references to the glory of kings in Scripture is found in Solomon's proverb recorded above. Thus, it seems we have here a vision of an eternity of God-glorifying study, discovery, and creative pursuits

of humanity. In the mathematics community, we often regard the discovery of a great theorem as a means of immortalization; instead, Christian students should be taught that such intellectual accomplishments are to be laid in reverent awe at the feet of the One who alone has immortality. Rather than producing pride, mathematical discovery ought to lead the individual to worship.

Ellen White reminds us, "We may be ever searching, ever inquiring, ever learning, and yet there is an infinity beyond."<sup>15</sup> This never-ending learning she offers as a vision of the world to come: "Heaven is a school; its field of study, the universe; its teacher, the Infinite One. A branch of this school was established in Eden; and, the plan of redemption accomplished, education will again be taken up in the Eden school."<sup>16</sup> Does this mean that we will be doing calculus in the new earth? While we should stop short of suggesting that our modern conventions and formulations of the discipline will be employed in paradise, students should be taught that mathematics is a vital part of the eternity of God-glorifying study for which they were created.

### Mathematics and Education

Through the lens of faith, mathematics is far more than just manipulating symbols. Rather, it is an image-bearer stepping into his or her role of being a co-creator with God. Thus, teaching mathematics is more than just helping students learn how to perform algorithms or manipulate symbols. I've come to think of chalkboards and whiteboards as windows into eternity, hoping my lectures will awaken students to the sense of endless discovery and co-creation for which they were created. Teaching mathematics is about helping students recognize their true identities, incredible worth, and the awesome place they occupy within the universe. Mathematics testifies to the reality that we're not here haphazardly but were designed to discover and extend creation while appreciating its

beauty. And mathematics teaches us to long for the eternity where we'll be able to continue our education in the presence of the One who formed us in love.

While anticipating eternity, mathematics also teaches valuable lessons of character. Over the last few years, I've intentionally introduced my students to Carol Dweck's research on *growth mindset*.<sup>17</sup> Dweck uses this term to refer to the different ways students view their intelligence and hence respond to success and failure. On the one hand, students who believe intelligence is fixed—you're either born as a "math person" or not—tend to interpret their poor performance on a math activity as evidence that they are incapable of mastering the material. On the other hand, students who are taught to understand that intelligence is something that one can develop—like a muscle—tend to interpret poor performance as indicators of what further steps they need to take to master the material.

In my calculus courses, I've added the course goal of having students develop a growth mindset: I give them opportunities to recover some credit by reworking missed homework problems, to teach them to learn from their mistakes; I meet with students after the first midterm and ask them to bring corrections to their missed problems; and I use a flexible grading scheme that allows students to recover if they persist after poor performance on a midterm.

I've seen this make a profound difference for numerous students, such as Sarah.<sup>18</sup> She enjoyed vector calculus but became discouraged because she found it challenging. After she had received poor grades on both of her midterm exams, she began to disengage from the class. I met with her, and we discussed how to use those setbacks as learning opportunities. Together we formed a study plan. As a result, she finished the course with the highest grade on the final exam. A year after taking the course, she shared with me her ongoing excitement over the classes she was taking in the mathematical sciences. Students such as Sarah who belong to demographics un-

derrepresented in mathematics are especially at risk to opt out of mathematical studies after initial failures. Thus, teaching a growth mindset is especially important because it teaches at-risk students to persist and go on to make valuable contributions to mathematics and society.

Beyond persisting in mathematics, students who cultivate a growth mindset develop traits of character that transfer to every sphere of their lives. As Christians, we understand this character growth to have an eternal value: “We also glory in tribulations, knowing that tribulation produces perseverance; and perseverance, character; and character, hope” (Romans 5:3, 4).

Finally, although anticipating the restoration of God’s good creation, we are constantly reminded that there is something seriously broken in this present world. Mathematics, like art, can give individuals glimpses of the world to come, but if we’re going to take Jesus’ call to service seriously, we must go a step further and actually address the suffering of this present world.

Enter the great applicability of mathematics. I’ve developed a growing burden to inspire and challenge my students to employ their training to address the great want of the world in whatever life course they pursue, be it as educators, engineers, medical professionals, lawyers, or even mathematicians. In one calculus course, for instance, after teaching a number of methods of integration, I set aside a week for students to work on projects that applied these skills to various other disciplines. They discovered numerous opportunities: for pre-med students to analyze blood flow and cardiac output, for business majors to study consumer surplus, for engineers to explore hydrostatic pressure, and for mathematically curious students to wrestle with the paradox of Gabriel’s horn. Thus, beyond just letting the students practice the skills of the course in

an engaging way, I used the projects to guide them in recognizing that the end of education is the joy of service, in both this world and the world to come.

While the problem-solving methods and results of mathematics exist independently of one’s worldview or religious commitment, there exists an important role for Adventist educators to teach their students to let their faith inform the way they view the nature and purpose of mathematics. Incredibly, this can transform the subject into a perpetual testimony of the great plan of redemption—from Creation to eternity—and remind students of their identity as image-bearers, inspiring them to worship an awesome Creator. Moreover, mathematics can equip the student for an eternity of useful Christlike service. “In the highest sense the work of education and the work of redemption are one.”<sup>19</sup>

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*This article has been peer reviewed.*

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#### NOTES AND REFERENCES

1. Plato, *Republic*, trans. G. M. A. Grube, revised by C. D. C. Reeve (Indianapolis: Hackett Publishing, 1992).
2. Morris Kline, *Mathematics and the Search for Knowledge* (New York: Oxford University Press, 1985).
3. Unless stated otherwise, Bible quotations in this article are quoted from the New

King James Version®. Copyright © 1982 by Thomas Nelson. Used by permission. All rights reserved.

4. Office of Education, North American Division, Seventh-day Adventist Church, *Pre-Algebra: 2012 Secondary Mathematics Standards in Seventh-day Adventist Schools*, 2, 3, accessed May 10, 2016: [http://adventisteducation.org/downloads/pdf/nad\\_mathematics\\_prealgebra\\_2012.pdf](http://adventisteducation.org/downloads/pdf/nad_mathematics_prealgebra_2012.pdf).

5. “Numbers and Operations,” <http://adventisteducation.org/downloads/pdf/Elementary%20Math%20Standards%20Numbers%20and%20Operations.pdf>.

6. 1 Corinthians 2:14, NLT. Scripture quotations credited to NLT are taken from *The Holy Bible, New Living Translation*, copyright © 1996, 2004, 2007. Used by permission of Tyndale House Publishers, Inc., Carol Stream, Illinois 60188. All Rights Reserved.

7. Godfrey H. Hardy, *A Mathematician’s Apology* (Cambridge, Mass.: Cambridge University Press, 1967), 123, quoted in Morris Kline, *Mathematics: The Loss of Certainty* (New York: Oxford University Press, 1980), 322.

8. Karl Weierstrass, quoted in Kline, *Mathematics: The Loss of Certainty*, 324.

9. Eugene Paul Wigner, “The Unreasonable Effectiveness of Mathematics in the Natural Sciences,” in *The Collected Works of Eugene Paul Wigner*, ed. Jagdish Mehra, vol. 6, *Philosophical Reflections and Syntheses* (New York: Springer-Verlag, 1995), 534-549. doi:10.1007/978-3-642-78374-6\_41.

10. The curvature of space-time is insignificant enough that the classical Euclidean geometry we teach in high school still does an excellent job of describing local phenomena.

11. Wigner, “The Unreasonable Effectiveness of Mathematics,” in Mehra, *The Collected Works*, vol. 6, 549.

12. J. C. Polkinghorne, *Science and Theology: An Introduction* (London: Society for Promoting Christian Knowledge, 1998), 73.

13. Kline, *Mathematics: The Loss of Certainty*, 52.

14. Eric Temple Bell, *Men of Mathematics* (New York: Simon and Schuster, 1986), 477.

15. Ellen G. White, *The Ministry of Healing* (Mountain View, Calif.: Pacific Press Publishing Association, 1905), 431.

16. \_\_\_\_\_, *Education* (Mountain View, Calif.: Pacific Press, 1903), 301.

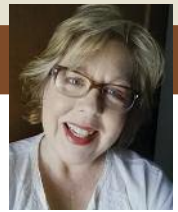
17. Carol S. Dweck, *Mindset: The New Psychology of Success* (New York: Random House, 2006).

18. Names used are pseudonyms.

19. White, *Education*, 30.



Megan Wehling



Patricia J. Maxwell

# Forming

# Partnerships

Imagine walking into your first class of the fall semester, and your professor explains that you and your classmates will jump right into the work of creating a public-relations (PR) plan for a real nonprofit organization. That's exactly what happened to David Deemer and Stefani Leeper<sup>1</sup> when they walked into Patricia Maxwell's Fall 2015 public-relations principles class.

A new professor at Union College in Lincoln, Nebraska, Maxwell teaches several communication and social-media classes in which she endeavors to teach her students by giving them not just theoretical but also practical knowledge. She has spent many years as a public-relations professional, most recently as director of marketing and communication technologies for

## to Enhance Student Learning

Catalina Island Conservancy in Long Beach, California.

Maxwell has worked and volunteered for a number of nonprofit organizations over the years, from Los Angeles, California, U.S.A. to San Martin, Guatemala. "One thing always remains true—nonprofits generally do not have the resources to accomplish all they want and need to do," Maxwell said. "Working with these organizations can be very rewarding."

In the summer, as she prepared for her classes, she began making connections with nonprofit organizations

around Lincoln, including Constru Casa, Lincoln Interfaith Coalition, Lincoln Peacemakers, and Domesti-PUPS, and many were open to allowing students to help them develop a public-relations plan.

Maxwell set high goals and felt confident that her students could achieve them—including adding real value to nonprofits' communication programs by producing professional-quality work that met a real need. "The students absolutely reached the goals I had envisioned," Maxwell explained. "The PR principles class this fall gave three Lincoln-based organizations the added boost of talent and time to accomplish some key tasks leading to brand awareness and engagement with their audiences."



### Taking on the Real World

David Deemer, a senior biomedical science major, teamed up with Roxi Peterson, Michael Brautigam, and Kristi Tucker to work with Constru Casa, a nonprofit that builds homes for impoverished families in Guatemala. They set out to increase awareness among older audiences who might be interested in supporting their efforts. To build awareness, Deemer and his group submitted an article for publication in *Nebraska Magazine* (The University of Nebraska's alumni magazine) featuring CEO Jim Pittenger and University of Nebraska Lincoln graduate student Kye Kurkowski.

Even though this project was given to them the first day of class, Deemer said that the team determined the path of the project, which taught him that life is thrown our way every day, and we can't always prepare for it. "There's a lot to be said about learning to make adjustments as you go," he said. "I think this class taught us to do that and to be comfortable in that environment."

Projects like these often prove to be very time-consuming. "This class is very involved, and in order to do well, you must invest time and energy into your team and your project," Deemer said. "Overall, it was a challenging and rewarding experience, and I'm glad I was able to take part in it."

Stefani Leeper teamed up with Anthony Gann and Rachel Lozano to work with Domesti-PUPS, a nonprofit that organizes community services with service and therapy dogs. This team grew the organization's Twitter audience and edited a promotional brochure. "I feel my team contributed by helping the owner of Domesti-PUPS realize that the business needs a larger social-media outreach, which can be easily accomplished by simply hiring a business or communications student as an intern," Leeper explained. Her favorite part of the class included the final presentation, not

The first year, students were appointed to teams based on their self-identification of skills and interests. The second year, job descriptions were provided, and the team leaders selected those students with the skills and interests they needed for the project. Instructors can monitor this selection process to ensure each student is part of a team.

because it signaled the end of the semester but because the students were to dress professionally and present themselves as business people as they presented the work they had done throughout the semester.

The team met with the organization on a regular basis to discuss expectations and give updates. Regular e-mail communication helped to keep the project on track. They also got to meet some of the puppies training to be service dogs. "This was probably the most fun meeting we had, as we were able to 'forget' about our job and focus on the purpose of it, the service dogs," Leeper explained. "We were able to hold the puppies and pet them. Although the experience lasted for less than 10 minutes, it was a nice, relaxing experience that we enjoyed as a team."

### Making an Impact

According to Maxwell, each team made a lasting impact on the organization they served. "Every organization reported that the quality of work by Union College students in this class was excellent," she said.

One of the other class teams worked with the Lincoln Interfaith Peacemaking Coalition. "Our commit-

tee would not have been able to reach any of the organizations and younger generations without their Facebook and Website designers," said Martha Gadberry, the director of the coalition. "The analytics were invaluable. Their need for information forced us to focus on our message and project. They taught us valuable lessons on the use of a variety of technologies in promoting our project."

Chris Blake, chair of the coalition, agreed. "Partnering with Union College communications students helped the Interfaith Peacemaking Coalition by envisioning, enlightening, and empowering," he said. "We feel 30 years younger! The media technology accessibility and products they provided were a Godsend. I highly recommend working with Union College emerging media students."

"The most immediate and obvious effect of the work by the Union College students was to get an article published in the University of Nebraska alumni magazine, which reached a wide audience. We are certainly hopeful that it will generate sig-

nificant interest in Constru Casa,” said John Lothrop of that organization.

Both students were thankful for the chance to pursue a real public-relations challenge.

“Patience and communication are the keys to life and success in this class,” said Leeper.

“This project may be difficult, but if you persevere, the outcomes are rewarding,” said Deemer. “You get out of this class what you put into it.”

### Helpful Tips for Teachers

Forming partnerships to enhance student learning takes careful preparation. Here are a few helpful teacher tips provided by Patricia Maxwell:

*Teacher Tip 1: Carefully screen the organizations.* Some questions to consider:

- Have they worked with and mentored students in this age range before?
- What are the expectations of the organization?
- Do these expectations align with course goals and outcomes?

*Teacher Tip 2: Let teams form organically.* The first year, students were appointed to teams based on their self-identification of skills and interests. The second year, job descriptions were provided, and the team leaders selected those students with the skills and interests they needed for the project. Instructors can monitor this selec-

tion process to ensure each student is part of a team. Also, *let students select the organization that they want to work with from a list of possible projects.*

*Teacher Tip 3: Use frequent evaluations.* Self, peer, and supervisor evaluations are essential to the workplace, and learning how to participate in this process is a work-related skill. One common approach is the 360 evaluation process.<sup>2</sup> Students evaluate their teammates at three different times during the semester, receive evaluation feedback from the nonprofit partners, and also complete self-evaluations. Encourage students to talk



One of the author's PR teams worked to promote a local nonprofit organization called Domesti-Pups. The team helped revise a promotional brochure and promoted several awareness and fundraising events for the organization. Left to right: Rachel Lozano, Anthony Gann, and Stephanie Leeper.



Members of Patricia Maxwell's Fall 2015 PR class pause for a group photo. Front row, left to right: Roxi Peterson, Michael Brautigan, Professor Maxwell, and David Deemer. Second row, left to right: Kristi Tucker, Rachel Lozano, Helen Maijub, Aria Bodden, and Misha Darcy. Third row, left to right: Stephanie Leeper and Anthony Gann.

about performance-related issues with one another in a productive and positive manner. The experience builds communication skills they need to work in teams on the job.

*Teacher Tip 4: Request feedback from organizations.* Ask for feedback from participating organizations at least twice during the semester. Work with partnering organizations to create feedback forms that will meet the needs of both entities—the class and the organization. At the completion of the project, invite the partnering organizations to provide students with a formal endorsement of the work completed.

*Teacher Tip 5: Grades reflect performance, just like in a job.* Each individual's grade is made up by the evaluations provided by peers who worked on the project *plus* the total grade assigned to the team by the class, organization, and teacher, *then* divided by 2. This keeps the grade "fair" for those who are carrying the bulk of the teamwork and encourages all of the team members to contribute to the work equally.

*Teacher Tip 6: Network constantly.* This might be easier said than done, depending on your personality, but use every opportunity to meet leaders

of businesses and nonprofits, as well as city administrators to tell them about your program and to ask them whether they'd like to participate. For example, one organization created an internship after I (PJM) talked about the talents and skills my students could bring to their mission.

*Teacher Tip 7: Let it be.* It's hard sometimes, but let the teams do the work and experience the result of that work, be it "good" or "bad." Guide and encourage, but let this be their project. Remember Psalm 32:8: "I will instruct you and teach you in the way you should go; I will counsel you with my loving eye on you" (NIV).<sup>3</sup> 🍀

### Helpful Resources

Campus Compact has a variety of resources that can help in course preparation (<http://com-pact.org/resource-posts/>), as well as general guidance on how to build effective community-academic/university partnerships (<http://com-pact.org/resource-posts/how-to-do-well-community-academic-university-partnerships/>).

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**Patricia J. Maxwell, MBA**, is Assistant Professor of Communication at Union College. She has more than 20 years of industry experience in marketing and communication for nonprofit organizations and institutions of higher education.

### NOTES AND REFERENCES

- Names used with permission.
- Instructors, students, and partners can use the information provided by 360 evaluations to gauge how well the project is progressing and what changes might need to be made. See Harriet Edleson, "Do 360 Evaluations Work?" *Monitor on Psychology* 43:10 (November 2012): 58: <https://www.apa.org/monitor/2012/11/360-evaluations.aspx>.
- Holy Bible, New International Version®, NIV® Copyright © 1973, 1978, 1984, 2011 by Biblica, Inc.® Used by permission. All rights reserved worldwide.