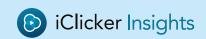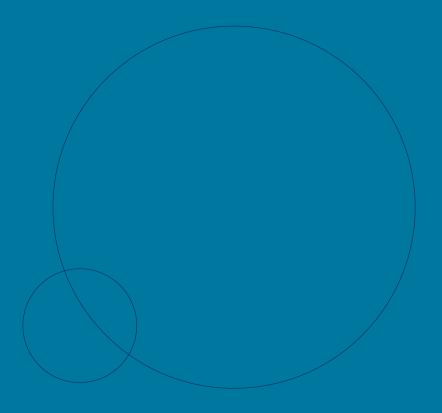# How Student Attendance Can Improve Institutional Outcomes

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iClicker Insights

Introduction

Macmillan Learning's Learning Science and Insights team has conducted extensive research into how attendance can serve as a robust early indicator of student success and provide insights to improve student, course, and institutional outcomes.

Attendance as an Early Indicator of Student Success

Why attendance matters.

When we talk about attendance, the focus is often on how a student's presence directly relates to the mastery of knowledge and skills. In fact, a meta-analysis has revealed that attendance positively affects both course grades and GPA and is the single strongest predictor of college grades.[1] Indeed, the connection between attendance and student performance is well documented[2] — but with important relationships to local context, prior performance, and motivation.[3] Attendance matters not only because it enables the transfer of content knowledge within a particular course or student activity, but **attendance provides students with access to other, noncontent-specific contextual information, resources and relationships that can positively impact their knowledge and sense of belonging.** Lectures provide students with far more than content–they provide students with information and orientations that they may not be able to access outside of class. Attending class sessions helps students to stay on track, understand expectations, foster important peer social interactions and generally promote a sense of connectedness. Increasingly, attendance is being understood as a precursor and leading indicator for student success.[4]

Key themes in attendance research.

One of the earliest indicators of student engagement and belonging is attendance. Here's why tracking attendance matters to achieving desired outcomes institutions are striving for:

Attendance improves performance. Although it is not the only factor, research shows that class attendance is positively related to subsequent academic performance. In particular, attendance has been linked to higher performance on exams[5] and to final course grades.[6] Indeed, some researchers have found that class attendance has a stronger effect on test scores than tutorial attendance and that these effects are stronger for underperforming students.[7] Most importantly, attendance is but one, very controllable aspect of student behavior and self-regulation that can have an effect on performance.[8]

Key themes in attendance research.

Impact of attendance can vary by subpopulation. The relationship between attendance and academic performance is strongest for nontraditional and /or underperforming students.[9] Often, these students may not have access to information technology, mentorship, and cultural capital. Therefore, consistent class attendance provides opportunities for nontraditional students to access these resources.

Attendance can shed light on motivation and learning strategies. Attendance is about more than showing up to class or an event — it can provide indications of student motivation, participation, time management, and adherence to program or institutional expectations. Also, it is worth noting that it has a relatively weak relationship with general student characteristics, such as conscientiousness.[10] So, while poor attendance may signal broader issues — such as challenges with motivation and self-regulation — it is not necessarily an indicator that any particular student is not contentious.

Attendance matters to students. Students have many opinions on attendance policies. As Gerald and Brady write in the Chronicle of Higher Education, "under-graduates tend to dislike a mandatory attendance policy but admit they would miss class more frequently without one."[11] Indeed, when offered the choice, of a mandatory attendance policy or one that did not punish absences, "students overwhelmingly selected the mandatory attendance policy" and, they note, in the five semesters since they began offering the choice, "85% of students have chosen the mandatory policy — revealing their desire to hold themselves accountable for attending class regularly." Attendance policies support students in three ways:

- **Policies provide guidance.** Without having some kind of guidelines in place, students don't often know how to initiate help or to initiate communication around their attendance. Policies also enable students who have a legitimate excuse for an absence a good way of understanding how and when to communicate that.

- **Policies set expectations.** Attendance policies indicate that the student's presence is important to the institution or instructor, which can be a factor in student engagement, belonging, and mattering.

- **Policies support self-regulated learning strategies.** Clear policies help students to learn what is expected of them in both academia and beyond, and help them begin to regulate learning and develop learning strategies that support their academic success.

Formative Attendance Insights Across a Department or Institution

We know that attendance is an early indicator of student engagement and success, but how can an institution easily track attendance at scale?

Attendance analytics enable institutional leaders and advisors to consider the bigger picture of attendance trends at their institution, which can empower student advocates to proactively identify students who may need additional support. Having attendance data in analytics can enable instructors to identify and support students individually in a class, or make conscious choices about class attendance policies. Analytics also make it easy to compare attendance to other sections taught by other instructors and develop an understanding of best practices for improving student attendance rates.

iClicker Insights is an analytics dashboard for administrators that blends data from what their research team has found are the most high-value data for improving student attendance, retention, and performance — classroom attendance, classroom engagement data, and survey data. iClicker Insights provides actionable insights into student attendance by student and course.

 Students of interest. Combining a comprehensive synthesis of published educational research with quantitative data analysis conducted by the Learning Science and Insights team at Macmillan Learning reveals that missing consecutive class sessions can be an effective early indication that a student is disengaging, which may negatively impact completing the course or program of study. Providing instructors with insights into students whose attendance is trending downward allows them to efficiently intervene or adjust some aspects of their course. However, building a comprehensive view of a student across multiple classes for an institution, enables student advocates (like academic advisors, success coaches, or even residential hall directors) to efficiently identify those needing additional outreach or interventions. When offered early enough, this type of student support could make the difference in a student staying or departing. In fact, once attendance data is captured and patterns of concern are identified, it enables a wealth of formative actions by multiple student advocates.

Courses of interest. Institutional attendance data can also enable better interventions by allowing administrators to analyze attendance data trends by course. For example, seeing multiple courses with high absences in the same discipline may indicate that a department chair or dean need to further investigate — for example, if students meet course prerequisites or if they need a substantial amount of prior knowledge in order to participate in the course at all. By analyzing extensive historical class attendance data, our analytics team was able to develop an algorithm that can forecast the projected final attendance of a course after just six class sessions. Forecasting the future trend can enable administrators or individual faculty to implement an attendance intervention or conduct further investigation into the cause of reduced attendance much faster and earlier in the course.

Research-Based Interventions for Attendance

Given that attendance data can be a powerful formative and summative measure, how can institutions use these insights?

Develop attendance policies and practices appropriate for each course.
Attendance data can help inform an appropriate attendance policy for an institution, department or course. For example, research shows that tracking attendance can have a different impact depending on class size.[12] In large classes, taking attendance can encourage students to come to class and feel more supported by their instructor. In small classes (of 20 or fewer), students expect their instructor to notice if they are absent, so taking roll or passing around a sign-in sheet can seem unnecessary. In smaller classes, attendance can be embedded more simply — for example, by recording which students engaged with an in-class activity.

Collaborate across departments and roles. Working collaboratively across departments, with faculty and administrators, to establish standards, expectations, or instructional models that facilitate positive class cultures, encourage active learning, and make lectures valuable to students while also reinforcing to students that attending class matters.[13]

Foster a culture of engagement. Welcome students to engage with instructors and peers through active learning pedagogies like peer instruction or other in-class activities that enable the implicit collection of student attendance.[14] For more than a decade, iClicker has enabled instructors to use polling technology to engage learners, assess student understanding and facilitate classroom discussion. Research by our Learning and Insights team of iClicker usage has revealed that by adding polling to a course, attendance improves by up to 10%. Furthermore, this research indicates that 3–5 polling questions is optimal to engage students in a class session without overwhelming them — so, incorporating active learning needn't be laborious.

Connect with disengaged students. Attendance is often a proxy for other things like motivation. Research has shown that when students feel less motivated to attend a class or they can't see the relevance of that class to their chosen degree goals, they visit the learning environment less frequently.[15] When you see a downward trend in a student's attendance, someone from the student's support community can reach out to identify and attempt to help to address issues pertaining to student motivation.

Reconsider punitive measures for student absences. If a student is missing multiple class sessions, taking points away from their participation grade may make it more difficult for them to succeed in the course. This can actually demotivate the student and negatively impact engagement. and can actually demotivate the student, which could negatively impact engagement. Instead of punitive measures, consider responses that focus more on attendance remediation methods of promoting self-regulated learning behaviors. Are there additional tutoring options that could be promoted to these students? Can the instructor, teaching assistant or advisor reach out to see if additional support is needed?

In conclusion, attendance data provide valuable insights into students and what sort of support they may benefit from and when in order to succeed. To get the most out of attendance data, be clear and consistent with your attendance policies. When students know what is expected of them they are more likely to set those time management goals and strategize and prioritize appropriately. Also, focus on understanding why students are missing classes and address the most pervasive reasons. Finally, clear communication with students about both the attendance policy, as well as the drivers behind the attendance tracking practices will empower students to understand the importance of attendance and see it as something that is important to their success.

Find more information on iClicker Insights, Macmillan Learning's attendance and engagement analytics dashboard, and explore the work of the LSI team at **macmillanlearning.com**.

Notes

1. Marcus Credé, Sylvia G.Roch, and Urszula M. Kieszczynka, "Class Attendance in College: A Meta-Analytic Review of the Relationship of Class Attendance with Grades and Student Characteristics," *Review of Educational Research* 80, no. 2 (2010): 272–295.

2. Victoria Alexander, Richard Hicks "Does Class Attendance Predict Academic Performance in First Year Psychology Tutorials?," *International Journal of Psychological Studies* 8, no. 1 (2016): 28–32; Steven E. Gump, "The Cost of Cutting Class: Attendance as a Predictor of Success," *College Teaching* 53, no. 1, (2005): 21–26; Daniel R. Marburger, "Does Mandatory Attendance Improve Student Performance?," *The Journal of Economic Education* 37, no. 2 (2006): 148–155.

3. Sarah Moore, Claire Armstrong, and Jill Pearson, "Lecture Absenteeism Among Students in Higher Education: A Valuable Route to Understanding Student Motivation," *Journal of Higher Education Policy and Management* 30, no. 1 (2008): 15–24.

4. Gump, "The Cost of Cutting Class."

5. Jennjou Chen and Tsui-Fang Lin, "Class Attendance and Exam Performance: A Randomized Experiment," *The Journal of Economic Education* 39, no. 3 (2008): 213–227; Marburger, "Does Mandatory Attendance Improve Student Performance?"

6. Gump, "The Cost of Cutting Class."

7. Do Won Kwak, Carl Sherwood, and Kam Ki Tang, "Class Attendance and Learning Outcomes," *Empirical Economist* (2018): 1434–7.

8. Gump, "The Cost of Cutting Class"; Godson Ayertei Tetteh, "Effects of Classroom Attendance and Learning Strategies on the Learning Outcome," *Journal of International Education in Business* 11, no. 2 (2018): 195–219.

9. Judith M. Harackiewicz, Elizabeth A. Canning, Yoi Tibbetts, Stacy J. Priniski, and Janet S. Hyde, "Closing Achievement Gaps with a Utility-Value Intervention: Disentangling Race and Social Class," *Journal of Personality and Social Psychology* (2015): 1–21.

10. Credé, Roch, and Kieszczynka, "Class Attendance in College."

11. Joe Gerald and Benjamin Brady, "Time to Make Your Mandatory Attendance Policy Optional?" *Chronicle of Higher Education*, January 13, 2019.

12. Yin Bai and Te-Sheng Chang, "Effects of Class Size and Attendance Policy on University Classroom Interaction in Taiwan," *Innovations in Education and Teaching International* 53, no. 3 (2016): 316–328.

13. Gbolahan Gbadamosi, "Should We Bother Improving Students' Attendance at Seminars?," *Innovations in Education and Teaching International* 52, no. 2 (2015): 196–206.

14. Credé, Roch, and Kieszczynka, "Class Attendance in College"; Catherine H. Crouch and Eric Mazur, "Peer Instruction: Ten Years of Experience and Results," *American Journal of Physics* 69, no. 9 (2001): 970–977; David McIlroy, Sue Palmer-Conn, Bridget Lawler, Karen Poole, and Ömer Faruk Ursavas, "Secondary-Level Achievement: Nonintellective Factors Implicated in the Process and Product of Performance," *Journal of Individual Differences* 38, no. 2 (2017): 102–112.

15. Ormond Simpson, "Students Retention in Distance Education: Are We Failing Our Students?," *Open Learning* 28, no. 2 (2013): 105–119.