

## 9.3 Type I and Type II Errors

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The screenshot shows a web-based statistics quiz interface. At the top, there's a navigation bar with a bell icon, a dropdown menu showing '9.1-9.3 Type I', and a user profile for 'Michael Brodskiy'. Below this, a breadcrumb trail reads: 'Statistics AP-Thompson-Year-12462 (66479) > Activities and Due Dates > 9.1-9.3 Type I/II errors and power'. The main interface has a header with '1 of 21 Questions', an 'Assignment Score: 90%' badge, and buttons for 'Resources', 'Give Up?', 'Solution', and 'Next Question'. On the left, a list of 21 questions is shown, each with a progress bar and status (e.g., '100% Correct'). The main content area displays 'Question 1 of 21' with a text block: 'A local high school makes a change that should improve student satisfaction with the parking situation. Before the change, 37% of the school's students approved of the parking that was provided. After the change, the principal surveys an SRS of 200 from the more than 2500 students at the school. In all, 83 students say that they approve of the new parking arrangement. The principal cites this as evidence that the change was effective.' Below the text is a question: 'Which of the following is *not* true regarding Type I and Type II errors in this setting?'. There are five radio button options: 'A possible consequence of a Type II error is the principal takes further action on parking when none is needed.', 'A possible consequence of a Type I error is the principal believes that students are satisfied and takes no further action.', 'All of the statements are true.' (which is selected), 'A Type I error occurs if you find convincing evidence that more than 37% of students were satisfied with the new parking arrangement, when in reality only 37% were satisfied.', and 'A Type II error occurs if you do not find convincing evidence that more than 37% are satisfied with the new parking arrangement, when in reality more than 37% are satisfied.'