

Case Study 5: Fabricated Data

(This fictional case was developed by Dr. Gale Cutler, a management consultant in Michigan.)

Part 1: Project leader Bruce Barton was being sorely pressed to complete the development of several engineering prototypes for a field test of a new appliance model for the XYZ company. One particular plastic component of the new model had given difficulty in laboratory tests as it failed repeatedly before reaching the stress level necessary for successful operation. Bruce had directed a redesign of the component using a tough new engineering plastic recommended by the Research Laboratory's Material Science Department. Stress tests needed to be run on the redesigned component, but Bruce was running short of time and needed to get on with building the prototype. Bruce sought out the manager of the Material Science Department for help in running stress tests on samples of the new component. With this assistance he could go ahead with prototype building and conduct the tests concurrently. The prototypes, of course, would not be released to field test until the stress tests on the redesigned component proved its design to be satisfactory. Tom Mason, manager of the Material Science Department, was willing to assist because he knew how critical completion of the development was to XYZ's future appliance plans. However, this was also a busy time for Tom's department. So, Tom suggested to Bruce that he could assign the test work to one of the engineering co-op students. Tom was also coordinator of engineering co-op students, and he liked to use the co-op students in demanding situations to give them practical experience. Tom assigned the test work to Jack Jacobs, an engineering co-op student from the State University who was completing his second work session at XYZ. Jack was familiar with the test equipment and previously had done similar test work. Jack was a good student and his co-op work had been usually well done. Tom commented to Jack that he would need to work diligently to complete the tests before he had to return to State University. Jack completed the tests on schedule and turned in a report to Tom indicating the component had successfully passed the stress tests. Upon completion of the test report Jack returned to the university for his next school session. Tom gave Bruce the good news. The prototypes were completed and the field test of these prototypes got underway on schedule.

A few weeks later, Bruce rushed into Tom's office to tell him that most of the prototypes were out of operation because of a catastrophic failure of the

component that had been tested in Tom's lab. Bruce wanted to discuss the test immediately with Jack; but since Jack had already returned to the university, he and Tom settled for studying Jack's lab notebook in detail. After review Tom said, "Bruce, I hate to say it but these data look too good. I know the equipment and there should be more scatter in the measurements Jack took. I think some, if not all, these measurements are in error or they have been faked! At best, Jack probably took a few points and 'extrapolated' the rest!"

Discussion Question 1: What ethical issues, if any, does this scenario raise?

Part 2: Bruce and Tom made plans to run all the tests again. Meanwhile, Tom phoned Dr Frank Thompson, Co-op Coordinator at State University, to discuss his fear that Jack had falsified data. In the course of the conversation he asked Dr Thompson if any effort was made to discuss professional ethics with co-op students before their first work session and if the importance and value of engineering test results were stressed to these students. Dr Thompson explained that no specific instruction on professional ethics was given to co-op students, but all lab courses emphasized the need for accuracy in data taking. Dr Thompson added that he found it hard to believe that a co-op student would "fake" data!

Discussion Questions 2:

Was it appropriate for Tom to discuss his concerns about Jack with the university's Co-op Coordinator prior to discussing the matter with Jack? Should Tom have a conversation with Jack about his concerns?

If so, what type of conversation should Tom have with Jack when he talks with him? Should he refuse to have Jack return to XYZ as a co-op student?

Commentary from the Author: Question 1

If Jack Jacobs, the co-op student, either faked the test results or took a few points and extrapolated the rest, he was taking credit for work without doing it, which is like cheating on a test or plagiarizing a paper. He was also making the company count on work which hadn't been done properly, trusting in something which turned out to be unreliable. There are other possibilities,

however, that shouldn't be discounted. The test may have been carried out properly but be an inadequate test for whether the part can operate under the strain of regular use. The test results may be in error in some other way. Jack may have not run the test properly. Although Jack was familiar with the test equipment and had previously done similar work, he may still have misused it and made honest mistakes. There is only presumptive, not conclusive, evidence that Jack did not run the tests to the best of his ability. Another issue is whether Jack was getting proper supervision in his work session at XYZ. It is good for co-op students to get demanding work to give them practical experience, but shouldn't their work be checked, both while doing it and after done, so that they and the company know if they are doing it properly?

Commentary from the Author: Question 2

If Tom had talked with Jack first, what could that have achieved? If Jack falsified the data, he might have lied about it and simply gotten himself into deeper unethical water. And if he did lie, what more would Tom know than he already knew? There would still be presumptive evidence that the results were falsified, but no more proof than before the conversation. On the other hand, if Jack had misused the equipment or had extrapolated from a few tests that might be found out, and Jack would be known to be guilty of the lesser of the suspected errors. And Jack might not realize that extrapolation from a few tests could have the dire consequences that did in fact occur from passing on materials which would not stand up under complete tests. There would be two reasons, then, for having a conversation with Jack. One would be to find out more about what really happened. The other would be to impress upon Jack the consequences of his poor performance. But is it Tom's responsibility to get in touch with Jack? Students are hard to reach at the University. Jack may not have a private telephone, and to write a letter hoping for an answer is a slow way of doing something.

Furthermore, the case is not just about Jack. It is about preparation of students for co-op work and, ultimately, for their professional work. Tom wants the Co-op Coordinator to be informed that a student probably falsified data or at least extrapolated from a few tests, which is not adequate job performance. The Coordinator should be told, for Jack's performance reflects on the University and its training of its students. Jack's identity would be hard to keep secret, in case Tom wanted to do so; but there isn't any reason to keep it secret. There is evidence that Jack failed to do honest work. Another question is whose job it is

to discipline Jack if he has done dishonest work for XYZ. XYZ could refuse to have him return as a co-op student. It could also write a letter to the coordinator to put into writing the charge. It could inform all the people at XYZ with whom Jack had worked that if he asked for letters of reference, they should be aware of this failing. But ultimately, the University has to be responsible for dealing with Jack's dishonesty.

How should it be dealt with by the University? If Jack is getting academic credit for the co-op work, should it be denied? If he deliberately falsified the data, should he be dismissed from the University? What procedure should be used for ascertaining the facts and assigning a penalty? Should this be treated in the same way as a case of cheating on a test or plagiarizing a paper, and by the same procedures? Or is honesty something that the University should leave to society in general and the conscience of the individual?