

Performing an investigation

Written by JN van der Merwe
Sunday, 01 April 2012 00:00

The papers in this issue of the Journal concentrate on projects, mostly performed as compulsory subjects during the break preceding the final year. These projects are the real test of a student's ability to perform an investigation, starting with the identification of a problem, deciding how to investigate, performing the investigation, and then reaching valid conclusions based on the outcomes of the investigation. So simple, yet often so difficult for even seasoned people in practice to stick to the rules!

It is not required of a student to perform groundbreaking work or to come up with scientific breakthroughs (although some, to their credit, come pretty close), but really to demonstrate the ability to think independently and to perform solid, logical work in a systematic manner.

The projects included in this edition were selected from presentations at the annual Students Colloquium of the SAIMM. At that event, students are exposed to the experience of presenting their work to a collection of people from industry and their peers from other institutions—mostly complete strangers. Some presenters are praised, others are brought down to earth, but they all go through with it!

Due to space limitations, not all the presenters were given the opportunity to submit papers for publication. Only the best ones in the views of the adjudicators at the Colloquium were selected. The presentations were put forward by the participating tertiary institutions from all the final-year student presentations.

This collection of papers therefore represents the best of the estimated hundred or so final-year undergraduate mining and metallurgy student projects in southern Africa. For the first time, the SAIMM also sought participation from beyond the borders of South Africa to include all the member countries. The prizes were also increased substantially.

Experience has shown that there is no ideal time for the Colloquium to take place. The timetables of the participating institutions vary to such an extent that no matter when it takes place, it will be right in the middle of a test or examination period for some, before the projects are completed for others while it will be perfect for some. It has thus been decided in principle that there will not be a set time of the year for the event, but that it will rotate so that the same institutions will not be disadvantaged every year.

One usually finds that there is a broad range of marks awarded for the projects at institution level, and it is not impossible for a student to fail the subject. What distinguishes a good project from a bad one?

Certainly, the amount of effort the student puts into the work is one important ingredient, but it is not the only one. Equally important is the support the student gets from the host mine or other organization where the work is done. Support does not mean assistance with actually doing the project, it has to be the student's

Performing an investigation

Written by JN van der Merwe
Sunday, 01 April 2012 00:00

own work.

Support really means putting some thought into the problems the students are given, bearing in mind that we are dealing with undergraduate students with virtually no work experience and thus limited judgment. The idea is not for them to prove that they know more about mining or processing than people who have been in that particular practice for decades. The purpose of the work is no more than to give them the opportunity to implement the processes of problem solving that they have been taught in lecture theatres, in a real world situation.

Guidance during the execution of the work is essential. Again, not telling them how to do the work, but helping them back onto the track if they happen to stray and pointing out elements that may sound good in theory but cannot work in practice. It is a learning experience.

The quality of the papers in this collection is testimony of the extent to which our members in practice provide this essential guidance that students cannot learn in a classroom. It reflects the quality of work of our student members, and it also reflects the contribution of our more experienced colleagues in practice. All have reason to be proud!