TABLE 5: Second and third year medical students' current academic performance at the University of the Free State.

Year group	Current academic performance											
	90–100%		80–89%		70–79%		60–69%		50–59%		< 50%	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Second year (*n* = 113)	1	0.9	16	14.2	29	25.7	44	38.9	20	17.7	3	2.7
Third year (*n* = 58)	0	-	5	8.6	27	46.6	24	41.4	2	3.5	0	-

Bioluminescent Proteins. Bioluminescence is the production of light by a reaction of a living organism to a particular stimulus. Luciferin and a luciferase enzyme are used to produce light in a bioluminescent organism. Bacteria, jellyfish and fireflies are examples of organisms that produce light by a bioluminescent reaction. Other older or less commonly used terms include ultrasensitive, single photon counting, . These are generally marketed for whole human genomes. A newer technology is base-specific labeling, where a target sequence in the human genome can be specifically labeled and differentially PCR amplified from different portions of the human genome. Target enrichment generally refers to the capture of targeted genomic sequences for enrichment from a pool of genomic DNA, often prior to sequencing, to facilitate high-throughput sequencing. RNA-seq is a less expensive way to detect and quantify alternative transcripts, and to detect differentially expressed gene products. This enables researchers to examine the entire genome, and potentially every transcript produced by the genome. Targeted Mutagenesis. Storage and preservation The genes stored in DNA are usually more durable than RNA as it is more vulnerable to degradation and extreme conditions. DNA is much more stable than RNA. Once a particular gene sequence is identified and isolated, it may be used to construct plasmids (cloning vectors), or microarrays. The concept of genetic sequence data storage dates back to a 1991 paper by George Church and Rob Knight in which they predicted that the human genome project would enable the storage of the entire contents of the human genome in a single cartridge. The DNA sequence in a single cartridge would be about 0.5% of the total information contained in the human genome, but would be sufficient to generate over 100 copies of the human genome. More recently, researchers have announced that the DNA sequence in a single cartridge would be around – one gigabyte – of data. Modern approaches to sequence storage allow the storage of billions of copies of a DNA sequence, or even entire genomes, to be made on a small number of chips. In 2012, researchers published a paper in Science with the aim to read the entire human genome in about ten days, compared to the previous fifteen years in which it had been estimated that reading the human genome would take four months, or the life of a human. A 2018 study in Nature showed that, with one modification, it 82157476af