

# George M. Tattersfield

## Educational Technology Strategy and Execution

George Tattersfield has worked in knowledge transfer roles for most of the past 42 years, concentrating on methods to improve knowledge transfer in the contexts of technology and innovation, and particularly in terms of the teaching and learning of science, engineering and mathematics. Originally from central Africa, he has worked in more than 20 countries in high school, university, commercial, consultative and online settings.

Mr Tattersfield began his career as a teacher of high school mathematics and sciences in Zimbabwe. During this time, he developed as an all-round educator, taking on many pastoral, athletics and cultural responsibilities in addition to his primary academic roles. After a further period of studies, Mr Tattersfield became Senior Lecturer and Program Coordinator in Electrical Engineering at the University of Cape Town, in which role he designed, delivered and managed numerous large (150-250 student) engineering courses as well as an entire 4-year degree program in Electro-Mechanical Engineering. He also eventually introduced Africa's first 4-year degree program in Mechatronics. In 1997, he was honored for his teaching and mentoring work by the University of Cape Town with that institution's highly prestigious *Distinguished Teacher Award*.



Mr Tattersfield came to live in the United States in 2001 and worked for several years as a technology evangelist and international trainer during the early development of voice-over-IP. This work involved extensive travel and direct service to major integrators and customers of the new technology, including Motorola, IBM, Verizon and AT&T among many others. Building, testing, installing and demonstrating complex telecommunications equipment were all part of this role, and eventually he applied the same skills to providing consultative training services for other vendors in the VoIP space.

In 2008, Mr Tattersfield co-founded Guaranteach, a very promising math tutoring application and incidentally a set-piece example of disruptive innovation, inspired in large part by Clayton Christensen's ideas and organization. Before YouTube or Khan Academy had developed their math video libraries, and certainly before the proper advent of Web 3.0, Guaranteach was a platform that curated over 23,000 short math teaching videos, which it presented to students by choosing for each individual the video that was calculated likely to be most useful to them in terms both of their curriculum needs and of their preferred learning style. As such, Guaranteach was an early example of the power of bringing student centrality to an educational technology solution, and it was also one of the first rich data-gathering platforms of its type, pioneering the collection of valuable and interesting student interaction data. Tattersfield sold Guaranteach to Capella Education Company in 2011.

Mr Tattersfield was thereafter engaged as a consultant by companies in the "edu-tech" space, on topics such as the analysis and implementation of the common-core state standards in Mathematics. As part of this work, he developed libraries totaling many thousands of unpublished and highly specialized K-8 assessment items, designed for detailed diagnosis of knowledge transfer in light of these standards. He was subsequently asked to bring similar definition to assessment items for High School math. Clients have included a large international research organization, several mid-size and start-up companies in the US and South Africa, as well as individuals and schools seeking advice on best practices in mathematics teaching delivery. As a subject matter expert, Mr Tattersfield tended to specialize in developing and advising on new instruments for formative, diagnostic and summative assessment in mathematics as well as on services in areas such as content creation, tagging or meta tagging of educational content, assistance with algorithmic solution design, educational data design and analysis, and specialized mentoring. His work often supported advances that his clients were making to bring new features such as streaming video, intelligent algorithms, rich data and learning personalization to their solutions. Examples of his involvement in innovative methods today include projects to adapt newly available AI tools to novel methods of teaching delivery.

Mr Tattersfield now does business as "GeorgeTutor," and focuses much of his time on the delivery of online one-on-one academic mentoring and tutoring. This work presents him with the opportunity to put his extensive knowledge of teaching and learning theory into practice and is likely to be the culmination of his long career in education. Working with a small coterie of students, but across an extraordinarily wide array of academic subjects, student ages and intellectual levels is a unique challenge. The common threads are encouraging students to develop "self-knowledge" as a crucial adjunct to learning, and the conviction that long-term coherent academic support will result in outcomes that are far superior to short-term "point solutions".

Mr Tattersfield holds BA and MA degrees in English from the University of Cambridge, as well as the BSc(Eng) (*summa cum laude*) and MSc(Eng) degrees in Electrical Engineering from the University of Cape Town.