Scientific English Course | Academic Year : 2019-2020

3rd year Licence Level | Realised by: Dr.O Behadada

Academic Reading text example 3

Use the strategy of Reading Academic text on the following text

Top scientists and business people such as Stephen Hawking and Bill Gates have warned of mass unemployment due to the rise of Smart Technology, Artificial Intelligence, Robotics, and Algorithms, which we term STARA (Bort, 2014; Lynch, 2015). It is estimated that one-third of jobs that exist today could be taken by STARA by 2025 (Frey & Osborne, 2013; Thibodeau, 2014). This is due to significant improvements in robotic dexterity and intelligence, coupled with inexpensive autonomous units that have the potential to outperform humans at many manual and conceptual tasks (Frey & Osborne, 2013).

Examples of these types of technology can be seen with the popularisation of retail self-checkouts, smartphone applications, automation in accounting, the internet of things, and future developments in driverless vehicles. The cost–benefit or payback on these types of technology makes it difficult to consider the continuation of human employees in some roles. For example, a supermarket self-checkout system costs $125,000 (this cost is expected to fall and vary from country to country) for four lanes (Human-Use Experience, 2015). Depending on the country, this is generally lower than or equal to paying four minimum wage employees for an average 40-hr week for a year. Considering the self-checkout system can work 24 hr per day, 7 days a week, and the employer does not have to pay taxes, pensions, health benefits, other benefits, or give breaks to the self-checkout,

it is clear which option is more economically viable for the retailer. The same will be applied to driverless vehicles once the technology is refined.

Interestingly, STARA is not being implemented into just low-paid, low-skilled positions. Sophisticated algorithms are being used in legal research: for example, the Clearwell system was programmed to analyse and sort 570,000 documents in 2 days (Frey & Osborne, 2013), a job that would have normally been conducted by lawyers and paralegals. In addition, report-writing algorithms within business and news media will become more common. Furthermore, the costs of robots with high-precision dexterity are falling significantly (Frey & Osborne, 2013).

A study of 702 occupations detailed the probability of computerisation (i.e., STARA) taking jobs. For example, jobs at risk include accountants, market research analysts, commercial pilots, customer service, sales staff, and office/administration workers, etc. (Frey & Osborne, 2013). STARA could also have a significant effect on medical (Bloss, 2011; Lorentziadis, 2014), education (e.g., with online mass learning), transportation, farming, forestry, and fishing industries. Overall, this seminal research suggested that 47% of jobs are at risk of being taken by STARA (Frey & Osborne, 2013). Many of these jobs are not low-skilled positions, but high-paying middle-class jobs, and many of these jobs are in the service sector. This comes at a time where income inequality is on the rise (Goos & Manning, 2007; Goos, Manning, & Salomons, 2009; David & Dorn, 2013). This is a significant problem given 'household wealth in New Zealand was concentrated in the top 20 percent of New Zealand households, which held about 70 percent of total household net worth' (Statistics New Zealand, 2016: 1). This report shows the widening divide between the 'Haves and the Have Nots' (McCammon, 2016).

If the profession does not fall into the high-risk category it can still be disturbed by STARA within other industries. For example, the need for driving instructors and licence testing

officers could be made redundant with driverless cars, as well as insurance assessors, panel beaters, etc. (since driverless cars have the potential to lower crash rates). In addition, it has been proposed that personal motor vehicles will be able to drive through the night while people sleep, putting strain on the accommodation and airline industries (Zaldivar, 2015). *The Economist* (2014) warns that new technologies may take jobs that will not be replaced. Based on these potential workplace changes, the main purpose of this research is to (1) develop a measure that captures STARA awareness; (2) test STARA awareness to determine whether employees perceive it as a threat to their job/career; and (3) determine what effect (if any) STARA has on a range of job and well-being outcomes of current employees. We draw on the career planning literature in relation to STARA perceptions.

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