2017

AP[°]

AP Seminar Performance Assessment Task 2

Sample Student Responses and Scoring Commentary

Inside:

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AP Seminar Rubric 2016-17: Performance Task 2

Component 1 of 3: Individual Written Argument

		Performance Levels				
Row	Content Area/ Proficiency	Low	Medium	High	Points (Max)	
1	Understand and Analyze Context	The response has a tangential connection to one of the stimulus materials AND identifies a theme that poorly connects two or more of the sources to the context of the research question or argument.	The response incorporates at least one of the stimulus materials AND relates to a theme or connection between two or more of the sources.	The response effectively integrates at least one of the stimulus materials into its argument AND clearly relates to a theme or connection between two or more of the sources (evidenced through explanation of context or purposeful use of sources).		
		2	4	6	6	
2	Understand and Analyze Context	The response puts the research question in a very limited context. It may be trivial or overly broad in scope, or it may prompt a recitation of facts rather than an argument.	The response makes simplistic references to or general statements about the context of the research question.	The response explains the significance of the research question by situating it within a larger context.		
			The response makes little or no connection between evidence from sources and a wider context.	The response connects evidence from sources to a wider context by considering the implications of others' claims throughout.		
		2	4	6	6	
3	Understand and Analyze Perspective	The response poses a simplistic problem, question, or issue. It identifies different perspectives.	The response identifies the complexity of a problem, question, or issue by comparing multiple perspectives.	The response addresses the complexity of a problem, question, or issue by comparing, interpreting, and drawing relevant connections between multiple, divergent, or contradictory perspectives.		
		2	4	6	6	
4	Select and Use Evidence	The response incorporates evidence from a minimal range of sources OR information is provided but not used as evidence to support the argument.	The response incorporates evidence from a range of sources to develop and support the argument.	The response incorporates and synthesizes relevant evidence from a wide range of sources to develop and support the argument.		
		2	4	6	6	

AP Seminar Rubric 2016-17: Performance Task 2

Component 1 of 3: Individual Written Argument (continued)

		Performance Levels				
Row	Content Area/ Proficiency	Low	Medium	High	Points (Max)	
5	Establish Argument	The response summarizes information without providing commentary about connections between claims and evidence or offers only very general commentary.	The response is logically organized, but the reasoning may be faulty OR the reasoning may be logical but not well organized. The argument explains the links between claims and evidence.	The response is logically organized, well-reasoned, and complex. The commentary interprets evidence and connects it to claims and reasons to clearly and convincingly establish an argument.		
		2	4	6	6	
6	Establish Argument	The response presents information without offering specific resolutions, conclusions, and/or solutions.	The response presents specific resolutions, conclusions, and/or solutions that are tangentially or partially connected to the research question.	The response presents detailed, plausible resolutions, conclusions, and/or solutions that fully address the research question.		
		2	4	6	6	
7	Understand and Analyze Argument	The response offers opinions or unsubstantiated statements about different perspectives.	The response offers a superficial or simplistic evaluation of different perspectives that is partially supported by evidence.	The response offers an evaluation of different perspectives considering objections, implications, and limitations.		
		2	4	6	6	
8	Apply Conventions	The response includes many errors in attribution and citation OR the bibliography is inconsistent in style and format and/or incomplete.	The response attributes or cites sources used but not always accurately. The bibliography references sources using a consistent style.	The response attributes and accurately cites the sources used. The bibliography accurately references sources using a consistent style.		
		1	2	3	3	

AP Seminar Rubric 2016-17: Performance Task 2

Component 1 of 3: Individual Written Argument (continued)

		Performance Levels				
Row	Content Area/ Proficiency	Low	Medium	High	Points (Max)	
9	Apply Conventions	The response contains many flaws in grammar that often interfere with communication to the reader. The written style is not appropriate for an academic audience.	The response is generally clear but contains some flaws in grammar that occasionally interfere with communication to the reader. The written style is inconsistent and not always appropriate for an academic audience.	The response uses effective sentences/ precision of word choice to create variety, emphasis, and interest to the reader; it communicates clearly to the reader (although may not be free of errors in grammar and style). The written style is consistently appropriate for an academic audience.		
		1	2	3	3	

Additional Scores

In addition to the scores represented on the rubrics, readers can also assign scores of **0** (zero) and **NR** (No Response).

0 (Zero)

- A score of **0** is assigned to a single row of the rubric when the response displays a below-minimum level of quality as identified in that row of the rubric.
- Scores of **0** are assigned to all rows of the rubric when the response is off-topic; a repetition of a prompt; entirely crossed-out; a drawing or other markings; or a response in a language other than English.

NR (No Response)

A score of **NR** is assigned to responses that are blank.

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A Call for Night Shift Regulation

The notion of night shift employment has existed since the dawn of industrialization and has played an integral role in the United States economy. Today, the night shift remains prevalent in U.S. society, harboring more than 21 million workers (Mcmenamin 9). Its continued practice, however, has raised concerns about its potential health detriments. A study from the British Journal of Cancer suggests that long working hours (which many night shifts consist of) may share a link to long-term risks such as breast cancer (Heikkila et al. 817). Former U.S. president Richard Nixon famously said in his 1971 speech, "Address to the Nation on Labor Day", that people "must always remember that the most important part of the quality of life is the quality of work", perhaps hinting at the Occupational Safety and Health Act (OSHA) he signed into law a year prior. But neither the OSHA nor any federal law currently imposes specific regulations on night shifts, allowing employers to establish their own workforce policies (Schnotz). Although night shift workers cope with their schedules, it is imperative to understand the current status of night work and how it should be managed by employers. Such evaluation brings up the question: What do the current health impacts of the night shift suggest about a need for its future regulation in the U.S.? Overall, an analysis through the economic, medical, and legal angles shows that night shifts do merit governmental regulations. These regulations will ultimately assist employers in minimizing the health risks of workers (mainly caused by circadian misalignment) and in maximizing their well-being and work efficiency.

The health effects of night shifts hold varying consequences from job to job but are nonetheless profound. Most notably, night shifts directly induce sleep problems which include fatigue, disrupted sleep schedules, and insomnia ("Shift"). This is because humans have circadian rhythms that are biologically suited to daytime activity. Misalignment of these rhythms due to

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night work can thus give rise to sleep disorders, which consequently influence job performance. According to Giovanni Costa, M.D. from the University of Milan, daytime disturbances, coupled with sustained wakefulness, can exacerbate the sleep problems of night workers, reducing up to four hours of their sleep (113). Costa further reasons that this problem is a key factor in promoting work errors, indicating that night work after the eighth hour has led to an "almost exponential increase of accidents" (114). The rise of work errors from the stresses of night shifts can have impacts on worker safety and the industry or business in concern.

From an economic standpoint, impaired job performance in night shifts can be situational in certain workplace environments. This is especially true for employment involving shift work¹. For example, in the health industry, night shift nurses often display fatigue, which can be worsened by extended or rotating shifts (Stokowski). Sandy Muecke from the University of Adelaide's Department of Critical Care Medicine explains that nurses who undergo rotating night shifts are more likely to give false responses and provide inferior patient care (437). Although Muecke substantiates that fatigued nurses correspond to patient death (437), she acknowledges that further research is necessary to prove a causal relationship. In any case, substandard performance in nurses or other healthcare employees can affect the healthcare institution's reputation and funding, as patients value a "safe clinical environment in which few clinical errors are extant in jobs involving precision or manual labor. These errors have caused historical disasters, such as the Three Mile Island accident², but more relevantly, injuries and deaths. In 2003, Conrail³ was held

¹ Shift work: An employment practice that is designed to provide service across 24 hours of the clock and often involves rotating shifts, night shifts, or both

² Three Mile Island accident: a nuclear meltdown that occurred in 1979 that has been attributed to oversights by night shift workers

³ Conrail: a now defunct railroad company based in Philadelphia

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liable for \$52.4 million in damages from an employee death caused by another employee who was "operating on only three to four hours of sleep" (Hazelwood). As companies fail to minimize employee fatigue, night workers may perform mistakes that not only risk safety in specific environments, but also cost the companies a large sum of money.

Some experts argue that there are effective treatments to sleep problems that can help night workers stay alert, such as exercising regularly and using stimulants at a sparing level (Shortsleeve). Sleep researcher Tina Waters also notes that night workers can practice good sleep hygiene to maximize resting time (qtd. in "How"). However, these methods ignore the time constraints attributed to many night workers and do not sufficiently alleviate their circadian disruptions. For example, sleep hygiene can be rendered less effective due to daytime disturbances, as mentioned previously by Costa. An unbiased study conducted by the Cochrane Work Group also shows that the use of stimulants and medications on night workers can produce side effects, notably headaches and nausea (Liira et al.). The limited efficacy of these treatments means that although night workers can seek temporary relief for their stresses, they are still subject to the long-term health risks of circadian misalignment.

Most night workers have some degree of sleep disturbance which can affect their longterm health. However, some of these workers, especially shift workers, have schedules that extend into parts of the day (Price). These shifts further augment sleep issues and the long-term risks associated with them. Dr. Frank Scheer, director of the medical chronobiology program at Brigham and Women's Hospital, asserts that "the body clock controls a number of important physiological functions", including metabolism and cardiovascular health (qtd. in Weeks). His claim ties with his findings from the U.S. Proceedings of the National Academy of Sciences, which reveal that long-term circadian misalignment caused by night shifts leads to an increase in blood pressure and

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a risk of heart disease (Scheer et al. 4457). Scheer's findings thus outline a harm of the night shift that has not yet been mitigated. Another major concern that arises with night shifts is the increased risk of breast cancer. An unbiased study with a sample size of 116,462 individuals conducted by researchers from the *British Journal of Cancer* suggests an association between long working hours and breast cancer (Heikkila et al. 814). The finding can indicate that night workers who work long hours have a higher chance of developing breast cancer, although analysis of the study's confounding variables proposes no link between cancer and night work itself (Heikkila et al. 817). Despite this, researchers from the University of Manchester's Faculty of Biology find that circadian misalignment caused by night shifts indeed triggers abnormal gene expression in the breast, and that "working night shifts three or more times per month elevates the risk of breast cancer" (Blakeman et al.). The concern for breast cancer thus extends to more than just night workers who have long shifts. Overall, the long-term risks of circadian misalignment and sleep disturbance apply to nearly all night workers, more so to those with longer shifts.

From a medical perspective, many researchers believe that directly minimizing circadian misalignment can reduce the long-term health risks of night workers, and additionally, reduce their sleep problems that affect job performance. Such measure includes the aforementioned treatments for sleep problems while also targeting the night workers' shifts. Night workers can adjust work schedules to suit their biological rhythms, as proposed by Charmane Eastman, a professor of biological psychology. These schedules "[make] use of the days off before the first night shift" to prevent fatigue in night workers, notably those with long or irregular shifts (42). Eastman's argument uses analysis pertaining to the human circadian rhythm; however, her proposal of an ideal schedule can be difficult to integrate, as Alan Cavaiola, a psychology professor at Monmouth University, states: "In the majority of workplaces, work schedules are often fixed in stone with

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often very little opportunity for employee-worker input". Another explored method is the practice of napping during work, which, according to many sources, helps maintain alertness, performance, and healthy metabolism. Even short naps can help relieve circadian misalignment in night workers, as noted by Michael Thorpy, director of the Sleep-Wake Disorders Center (27). On the other hand, Eastman and another researcher from Rush University Medical Center indicate that "napping does not overcome the decrement in alertness that remains most pronounced at the circadian nadir", and that "sleep inertia, the grogginess often felt upon awakening from sleep, is most severe at night" (Smith and Eastman 114). Consequently, effective naps for night workers calls for long and unfeasible break periods.

Some treatments for circadian misalignment are applicable but are not strictly imposed by employers. For instance, bright light therapy can help night workers maintain their sleep schedules. The light acts as a natural stimulant, and night workers under bright conditions have displayed improvements in job performance from increased vigilance (Smith and Eastman 114). Employers can increase the brightness of lights during night shifts, although this is often to the control of the worker. For treatments that occur outside of work, such as the use of sunglasses during daytime⁴, employers play an even more minor role in establishing standards.

The question regarding how employers should set policies for night shifts brings up a legal analysis of the issue. U.S. employers are responsible for keeping night workers productive and safe (Scott). Thus, if night workers face issues with health and safety, an intervention from the government should be considered to help employers set better standards. According to Thomas Frieden, former director of the Centers for Disease Control and Prevention, a major role of the government is to "protect individuals from preventable harm caused by other individuals or

⁴ Wearing sunglasses during the day can help night workers adjust their biological clock and sleep better.

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groups" (1857). In the case of night shift employment, the government should therefore intervene if night workers are at risk of impaired job performance or the long-term risks of circadian misalignment. This intervention can maintain both the well-being of the worker and the integrity of the company or industry. Frieden additionally argues that the government has a responsibility to "increase the information available to the public and decision makers" as well as "create environments that support healthy behaviors" (1859). The previously analyzed aspects of the night shift's current status show that many workers are at risk for work errors and medical complications. As it is clear that current policies of employers do not sufficiently mitigate the health impacts of night workers, the government—suitably the federal government—should aid employers in extending regulations.

The main health problem pertaining to night shifts has invariably been circadian misalignment. The U.S. federal government has several ways to combat the issue. Ideally, the government can ensure that night shifts have limits on working hours, namely for jobs in which work errors risk the safety of individuals. Researcher Bronwyn Fryer from the Harvard Business Review affirms that a policy limiting work hours can help night workers "avoid building up a sleep deficit". Such policy is not a new concept. The law in Great Britain, for instance, mandates that "night workers must not work more than an average of 8 hours in a 24-hour period" (United Kingdom). By establishing working hour regulations for night shifts, the U.S. federal government can ensure workers do not endure sleep problems that deteriorate their performance or overall health, preventing fatal accidents as seen through the economic lens and long-term conditions as seen through the medical lens. However, these regulations hold limitations, at least in the short run. Firstly, organizations that manage certain industries will need to revise their regulations to fit the government's, which can involve complicated processes. Secondly, shortening night shifts will

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force employers to adjust work schedules as well as employ new members to make up for the cut hours. Long shifts are common in the U.S. and have risen in frequency over the decades ("Why"). Implementing the new regulations can have consequences in areas such as medicine, as a temporary dearth of employees can put lives at stake. Taking these problems into account, the federal government should implement its regulations gradually.

To a lesser extent, the federal government can set regulations on working environments. Applicable treatments for sleep problems, such as stronger lighting, can be integrated into the nighttime workplace. Orientation sessions tailored toward night workers can educate them about the risks of and treatments for circadian misalignment. Ultimately, transparency and a good working environment, emphasized previously by Frieden, can maintain healthy behaviors that help reduce the health risks involved with night shifts. Nevertheless, the main limitation to these regulations is that treatments for night shift problems can be unrefined, and in some cases, experimental. Bright lights, for instance, do not completely eliminate the "trough of alertness at the circadian nadir" (Smith and Eastman 114). However, as more research gives rise to better treatments, the federal government can gain confidence in promoting or imposing them.

The current health impacts of night shifts in the U.S. suggest many detriments. Sleep problems of night workers can negatively affect industries through reduced job performance, while harming themselves or other individuals at the same time. Moreover, long-term circadian misalignment of night workers can result in medical risks, the major ones being heart disease and breast cancer. Minimizing the health problems related to night work, without a doubt, requires employers to balance night workers' biological clocks, which can be an undesirable process. A very effective way to incite employers to do such action is to have the federal government regulate night shift hours and working environments. Through a gradual process, the government can protect night workers from the harms of night shifts as employers adapt to new regulations. Ideally, the night shift can still remain at the heart of U.S. society as workers assume a healthier and more productive lifestyle.

Word Count: 2191

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AP Capstone I

Effect of Technology on Wages

March 27, 2017

2

Effect of Technology on Wages

From the first wooden arrow to the IBM's Watson, technology has been present in the workplace. At first, the intent for technology was to make difficult jobs easier for the worker and still allow the employee to keep their job. However, in contemporary times, technology has reached a level of complexity that humans cannot physically compare to. Recent technologies such as worker-line robots have boosted productivity because robots do not need breaks, vacations, or sick days. Furthermore, in the paper "World without Work" by Derek Thompson, he claims that humans will become immaterial due to the extreme advancement in technology. Thompson explains how technologies in the process of implementation will eventually diminish our economy and our society norms, as we know it. In reaction to this, a question that has been raised is how human wages have been affected due to the rise of multifarious technologies. More specifically, from the effects of the technologies on wages how has it affected in economic and social aspects? To simplify, how have wages been changed due to the execution technologies? Throughout the paper, former technological advancements will be examined through multiple lenses to understand the benefits and consequences of the effect of technology on wages.

Before we understand the benefits and consequences of technology in wages, we need to comprehend the meaning of technology and its uses. According to Oxford dictionary, the definition of technology is Machinery and devices developed from scientific knowledge (Technology). This is vital for us to know when examining different sources of technology because it broadens our scope of the type's technology rather than looking at merely modern advancements. It also allows us to see how technologies in the past have affected our markets and families.

3

The first place we will examine the effect technology has on wages is by looking at the first technological revolution. The Industrial Revolution. This was the first revolution of its kind because of the mass amount of goods and services produced due to technological advancements. Another reason behind looking at the Industrial Revolution is the reliance of technologies on producing energy such as the use of water mills and steam-powered engines. To put it into context, The Industrial Revolution began in 1760 and ended in the 1840's. Though this period was remarkable from a consumer standpoint, there were different views taken on the revolution from an economist's perspective. A paper written in 1983 by Peter Lindert and Jeffery Williamson, two British economists, reflecting on The Industrial Revolution shaped a more optimistic approach on the estimates of real wages. The two economists then concluded that wages rose from 50 index points in 1789 to 100 in 1822, meaning that the earnings number doubled in 33 years (Lindert, Peter H., and Jeffrey G. Williamson.). This demonstrates that the use of technologies in the past helped the economy. However, other economists rejected and challenged the optimistic results found by the Lindert-Williamson's series. Charles Feinstein, a British economic historian, had his doubts about the findings done by Lindert and Williamson. This led Feinstein to make an alternate series of wages based on a different price index named the "Feinstein series" (BOTHAM, F. W., and HUNT, E. H.). In the Feinstein series, the real wages grew. The rate was slower than the Lindert-Williamson's series (BOTHAM, F. W., and HUNT, E. H.). Researchers speculated that the unmeasured environmental effects were the primary cause of the difference of growth between the two series'. This exemplifies to us that though Feinstein disagreed with Williamson and Lindert, they agreed to the idea that the implementation of these technologies in the past were beneficial to the wages of the worker. Another aspect of the revolution was brought up by John Brown, an economist studying the

standard living in Britain during the Industrial Revolution, concluded that the rise of wages in Britain was due to the horrid working and conditions of life as well as technology (Brown, John C.). This evidence helps us comprehend that wage increase has multiple causes and not only technology. Another point brought up regarding the Lindert-Williamson's series was that it was never given to what happened to the workers that did their work home based or were selfemployed. Mainly, they never took into account the other jobs in the economy, which were substantially relevant. Joel Mokyr, an economics professor who conducts research on the economic history of Europe, advocated that the employees that were not included in the Lindert-Williamson series suffered due to the offset of the rising incomes and the rising wages (Mokyr, Joel,). This allows us to see that though technological advances helped wages in most cases it also had its penalties. Nonetheless, a simulation done by Mokyr demonstrates that without "technological changes of The Industrial Revolution, population growth could have substantially reduced real income per person between 1760 and 1830" (Mokyr, Joel,). In other words, without the Industrial Revolution, there would be no significant increase in the income of workers. In this situation, Lindert and Williamson believed that the technological advancements gave employees large wages in a short period. Conversely, Charles Feinstein disagreed with the idea that wages increased so rapidly and increased significantly slower than the Lindert-Williamson's series. Though the economists had different viewpoints, they both acknowledged that the technological advancements in the Industrial Revolution led to wages increasing.

Although it is necessary to look at salary effects in the past, it is also vital to look at times that are more recent. In modern society, the use of computers, tools, and robots has become more prominent, and this has led to humans becoming reliant more on technology than ever before. The best way to understand the effect of technology on wages is to see the salaries from more

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recent times to see how technology has affected our society's earnings. An article by James Bessen, an economist at the Boston University of Law, explains the effect of technology and how it has affected our society in modern times. One of the areas, which he writes about, is from a wage perspective and how technology has made incomes fluctuate. In his article, he talks about how unionized workers in the 20th century earn "three-fold increase in earnings. Ultimately, the biggest factor in that wage growth was technology" (Bessen J.) Bessen's evidence exemplifies that technology has helped raise our salaries in the past and in recent times as well. Another example of technology's effect on wages was in a paper written by Michael Hendrix, a creative director for IDEO; he talks about how the GDP has risen one percent each year from 1991 to 2015 because of the technology's use in the workplace (Hendrix). This helps us see that with technology; our GDP has risen meaning that our economy has done well due to the increase in wages and other factors. This also helps us see that technology has not only benefitted workers in the past but has also given us more economic freedom due to more expandability. However, Michael Handel, an Associate Professor of Sociology at Northeastern University, suggests that technology has made wages higher yet increased the competition for workers. He claims in his essay that though wages do increase there are multiple cautions come with technology such as wage inequality, demand for especially IT professionals, and fragility of skills required in the job market. In other words, Handel warns us that with technology's benefits there are consequences that could lead us to a solely computer oriented society. Furthermore, a study done by Andy Feng, and PhD candidate at the London School of Economics, demonstrates that "middle-skill workers who are displaced by machines experience downward pressure on their wages, and they end up worse off in relative terms compared to high and low skill workers who are less affected by automation (or not at all)." (FENG, A., AND G. GRAETZ (2015)). This displays that

technology does not always help wages, and in some cases hurts wages as well. Though there are consequences with technology, there are other benefits. A study done by Columbia University Professor Ann Bartel, a labor economics, and human resource management professor, investigates company wages and the amount of technology in the workplace. After accumulating enough data, Bartel concludes, "all workers in industries with large computer purchases have higher wages" (Bartel, A. P.). Bartel helps us understand that there is a direct correlation between companies who own technology and salaries. The evidence allows use to grasp the idea that technology benefits salaries in a more recent periods as well. Though there are consequences, there are also respectable benefits from the application of technology.

Based on the data we need to know how the wage increase helps or hurts our economy. Wages have been the primary incentive for employees to continuously to keep working. Higher incentives or higher wages meant people were more enthusiastic to do their jobs. Higher wages led to job growth and employment in factories and companies. A study done by Alan Krueger shows that when wages increased in the fast food industry that job growth spurred in workers (David Card and Alan B. Krueger). This illustrates that pay increase opened up jobs in the economy and increases opportunities for workers in factories and companies. Furthermore, the increase in wages led to a reduction in poverty. A report released by the U.S Census Bureau shows that the growth of minimum wage resulted in 3 million families coming out of poverty (US Census Bureau). This helps us see the benefits of the pay increase on the economy because it helps a family who cannot afford to buy their kids food. Another advantage of wage increase was the rise in the productivity of the workers. Alan Manning, a Professor of Economics at the London School of Economics, talks about how wage increase has led to work becoming a more rewarding job to do leading workers to do their job more productively (Alan Manning). Though

there have been benefits with wage increases in the past, it does not mean wage increase is always perfect. A study done by NBC shows that price of coffee increased by ten dollars due to the pay increase for workers. This demonstrates that with wage increase the price of our goods and services have increased which makes people who do not have a high income even harder to obtain food and other necessities. Another consequence that has occurred due to wage increase is the increase in tax paid to the government by employees. James Sherk, MA, Senior Policy Analyst at the Heritage Foundation, has done studies on wage increases and has seen that with salary increase families have had to raise their taxes due to the government each year with higher wages (Sherk J.). In essence, the minimum wages have multiple benefits and consequences that can affect the economy.

Overall, technology has affected our wages in a positive way. Though technology affects the brain and jobs in negative ways, employee wages increase and makes economies better. Through evidence, we can see that technology in historical times has helped wages increase and technology has facilitated higher wages in times that are more recent. Technology is a vital object required in the workplace because it aids with productivity in the workplace and increases productivity in workers.

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Is Technology Replacing Humans?

The issue I found to be a conflict is, machinery replacing human duties. For ages, human duties consist of farming, manufacturing, cleaning and etc. The essential question that should be looked into more is, "Is Technology and machinery replacing humans?" We live in an age where if you're curious about anything you can find answers within seconds due to advancements in technology, but what is the effect of that easy access inside of businesses? Because of these advancements human workers start to lose value and may seem almost little to no valid reason to hire an inexperienced individual when you can find or get what you're looking for in seconds from a machine . Would this pursue you to make poor ethical decisions like furthering your education if you were to personally pick your own career or dream career?

Mortimore Adler suggested that there are three objectives of children's schooling which are, the development of citizenship, personal growth or self-improvement, and or occupational preparation. The schooling system now is mostly involved with technical devices to "improve" oneself. Studies from Digital Responsibility.org states, "Technology can have a large impact on users' mental and physical health. Being overly connected can cause psychological issues such as distraction, narcissism, expectation of instant gratification, and even depression...

(T)echnology can also have negative.

repercussions on physical health causing vision problems, hearing loss, and neck strain." The purpose to bring this statement up is to show that, what can potentially help us can also be what we need to avoid.

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Is Technology Replacing Humans?

Wisdom is vital to obtain at this time of age. In order to get a high paying job (majority) you need a college degree/degrees or experience, depending on the employer. The median salary for people with less education than a high school in the United States is \$20,350 (www.bls.gov) Statistics from Business Insider.com says that estimated cost of annual necessities to live in Los Angeles, California is \$70,704 which is over than fifty thousand dollars than what you would make with an education less than high school. This study shows that without first graduating from high school the struggles of living increase tremendously causing stress about schooling. To stop a large problem the ideal solution to cease it, is at the root of the cause.

The use of machines in business settings has both potentially good and bad effects of pertaining so. Machines play an enormous role in the hospital settings resulting in fast communications and giving the staff a more reliable resource rather than looking for specific paper in mountains of papers. The benefit is the mass production it provides, you set the settings of the quality of manufacturing you desire, and how easily accessible it is. The down side is the cost of maintenance if it were to crash. An example is in Clinical Labs machines vary out to costs of \$250,000 to \$1,000,000 USD, as a Clinical Lab Scientist you are trained to repair all machines if the worst were to happen, some cases you may be doing more damage than good trying to fix the machine(s) causing more expenses.

In the document, "A World Without Work" written by, Derek Thompson. Thompson Explains the sophistication of machines and how life-like they have become over time. In the text he says, "They imagine self-driving cars snaking through the streets and Amazon drones dotting the sky,

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replacing millions of drivers, warehouse stockers, and retail workers. They observe that the capabilities of machines—already formidable—continue to expand exponentially, while our own remain the same. And they wonder: Is any job truly safe?" - Page 7 paragraph 2. The world or at least parts of the world is constantly evolving into a new era, resulting in new advancements with technology especially.

The first, "Robot" is said to be believed built around 400 B.C. by mathematician Archytas, which was structured to be a mechanical bird that was built from wood and used steam to power the functions of the robot. When tested the bird flew the distance of 200 meters before running out of steam. Later on in time Robots were predicted to take over the human race by play writer, Karel Capek. In his play, robots were perceived that they, "Can do the work of two-and-a-half human laborers, "so that humans might be free to have "no other task, no other work, no other cares" than perfecting themselves." - <u>www.wired.com</u>.

Machines in regards to our convenience has both amazing potential(s) to improve our lifestyles and has the fatal potential to cause danger to our health as a whole. One of the down sides of technology is our phones themselves. They allow us to communicate to people worldwide, share photos, get important messages out, and eventually become our daily routine, but they cause many health issues whether it'll be the lost vision, loss of social skills, or having an indented pinky. The indented pinky or also known as the, " Smartphone Pinky" is the result of

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resting your phone on it over an excessive amount of time, causing bone deformities and genes of so to be passed on to heirs resulting in technology adaptation both mentally and physically.

With continuous research and efforts to be done, how can we as a society fix this uprising conflict and acknowledge that we are just as capable of completing tasks just as much as building robots to complete them for us? From UC Berkeley, Professor Stuart Russell says, "As machines get smarter and smarter, it becomes more important that their goals, what they are trying to achieve with their decisions, are closely aligned with human values," This being said explains that the existence of robots is make human life (preferably) much more easier than ideally what is to be expected without the intentions of replacing human life and activities of enjoyment with machinery. The overall intention is rather to enhance them.

For ages human tasks consisted of cleaning, cooking, building objects, calculations with the help of mathematical equipment, with teaching be one of the main ones. With multiple innovators in the course of time, advancements in technology made almost every field of human interest much more easier. Life is an interesting adventure with wonders on every corner.

Word Count: 1046

Is Technology Replacing Humans?

Performance Task 2 Individual Written Argument

Overview

The Individual Written Argument assessed the students' ability to:

- Engage deeply with the stimulus materials
- Identify a theme that links at least two of the stimulus materials
- Craft an academic research question based on the identified theme
- Conduct research and develop their own perspective on their question
- Make a clear, coherent argument
- Comprehend and engage with college-level, scholarly sources
- Recognize the conversation surrounding a topic and then engage in that conversation in an informed and academic manner
- Craft a response that carries an academic tone. In this case, the "student voice" is one that ascends to the level of a college classroom, rather than a conversational or informal tone that students may hear in relaxed discussions.
- Engage with multiple sides of an issue, but not by merely reporting out what those voices have to say, but by putting them in conversation with an argument.
- Explore perspectives and evidence in service of delivering a well-reasoned argument about the topic.

Performance Task 2 Individual Written Argument

Sample: A 1 Understand and Analyze Context Score: 6 2 Understand and Analyze Context Score: 6 3 Understand and Analyze Persp Score: 6 4 Select and Use Evidence Score: 6 5 Establish Argument Score: 6 6 Establish Argument Score: 6 7 Understand and Analyze Arg Score: 6 8 Apply Conventions Score: 3 9 Apply Conventions Score: 3

HIGH SAMPLE RESPONSE

Rubric Row 1: Understand and Analyze Context

The response earned 6 points because it effectively integrates one of the sources into its argument and clearly relates to a theme between two or more sources (worker wellness (Heikkila et al.) and job responsibilities (Nixon)).

Further, the discussion involving Heikkila et al.'s study on the top of page 4 is effectively integrated to discuss the potential health impacts of working long hours. Omission of these points would detract from the argument that night-shift workers often also work long hours and therefore require regulations to protect their interests.

Rubric Row 2: Understand and Analyze Context

The response earned 6 points for this row because the introductory paragraphs foster a sense of relevance of the topic. The response recognizes the necessity to solve a specific issue (the effect of night work on health) by illustrating a regulatory need: "neither the OSHA nor any federal law currently imposes specific regulations on night shifts, allowing employers to establish their own workforce policies (Schnotz)." It then proceeds to defend the presence of a problem from the bottom of page 1 through the top of page 3. The sense of urgency is communicated with a thorough discussion in this section about the repercussions of night work on employee health and productivity.

The paper also connects to a wider context arguing that the effects of night work are not just about worker health, but also about job performance. "The government should therefore intervene if night workers are at risk of impaired job performance."

Rubric Row 3: Understand and Analyze Perspective

The response earned 6 points for this row because it analyzes multiple perspectives to address the complexity of the problem of night shift regulation. The response considers the multiple perspectives of the various stakeholders involved. These include employees and their wellness, employers and their demands, and federal governments and their regulations .For example, at the bottom of page 6, by putting the practical limitations of employers in conversation with governmental regulations that would mitigate negative effects on night shift employees, the response puts three perspectives in conversation with each other.

Performance Task 2 Individual Written Argument

Rubric Row 4: Select and Use Evidence

The response earned 6 points for this row because information from a wide range of sources is present. The paper cites from academic journals, government and professional organizations, and popular magazines to effectively support the argument.

Additionally, a balance of student and source voices reflects the analysis of well-synthesized evidence. The presence of the student voice is not overpowered by the presence of source information and the response pairs source information with its own commentary:

Most night workers have some degree of sleep disturbance which can affect their long-term health. However, some of these workers, especially shift workers, have schedules that extend into parts of the day (Price). These shifts further augment sleep issues and the long-term risks associated with them. Dr. Frank Scheer, director of the medical chronobiology program at Brigham and Women's Hospital, asserts that "the body clock controls a number of important physiological functions", including metabolism and cardiovascular health (qtd. in Weeks).

The response contextualized the quote from Dr. Scheer in its own conversation on shift work.

Rubric Row 5: Establish Argument

The response earned 6 points for this row because it communicates a clear and convincing argument through a logical organization. It moves through a line of reasoning by explaining the problem, analyzing multiple perspectives, and discussing potential solutions. The commentary interprets evidence by engaging with the content of the quoted material. For example, on the bottom of page 5, the response interacts with the "harm" explained by Thomas Frieden and connects that harm to the already-established problem of "impaired job performance" and "the long-term risks of circadian misalignment" to assert the claim that "the government should interfere."

Rubric Row 6: Establish Argument

The response earned 6 points for this row because it reaches a detailed conclusion regarding the need to regulate night shift work. The conclusion moves beyond merely re-affirming the need, and provides a suggestion about how such regulations might be implemented. The response recognizes the limitations of the federal government's ability to do so quickly, and suggests that such actions be done "gradually." It presents enough details--such as details about a model program in the UK-- to assess the plausibility of incorporating future regulations on night work and how feasible such regulations might be in the U.S.

Performance Task 2 Individual Written Argument

Rubric Row 7: Understand and Analyze Argument

The response earned 6 points for this row because it considers various implications and limitations of the multiple perspectives. For example, the need for the federal government to regulate night hours has limitations: "Firstly, organizations that manage certain industries will need to revise their regulations to fit the government's, which can involve complicated processes. Secondly, shortening night shifts will force employers to adjust work schedules as well as employ new members to make up for the cut hours." Employers accommodating circadian rhythms also has limitations, as "effective naps for night workers calls for long and unfeasible break periods."

Also, when the response analyzes Tina Waters's suggestion to "practice good sleep hygiene," the response acknowledges the limitations of her methods, by explaining that they "ignore the time constraints attributed to many night workers and do not sufficiently alleviate their circadian disruptions."

Rubric Row 8: Apply Conventions

The response earned 3 points for this row because it consistently and accurately cites the sources used. The bibliography is complete and all of the cited sources have an entry on this page.

Rubric Row 9: Apply Conventions

The response earned 3 points for this row because it contains few flaws in grammar or style. It demonstrates a strong control of the language--for example, "they are still subject to the long term effects of circadian misalignment"-- that is appropriate for an academic audience.

Sample: B

- 1 Understand and Analyze Context Score: $\mathbf{4}$
- **2** Understand and Analyze Context Score: 4
- **3 Understand and Analyze Persp Score:** 4
- 4 Select and Use Evidence Score: 4
- **5 Establish Argument Score:** 4
- 6 Establish Argument Score: 4
- 7 Understand and Analyze Arg Score: 4
- 8 Apply Conventions Score: 2
- 9 Apply Conventions Score: 2

MEDIUM SAMPLE RESPONSE

Rubric Row 1: Understand and Analyze Context

The response earned 4 points because the response incorporates one of the stimulus materials and relates to a theme; however, the stimulus material is used as a jumping off point. This is evidenced when the response mentions that Thompson "claims that humans will become immaterial due to the extreme advancement in society" as a way to indicate that the response's question was a "reaction" to Thompson's ideas.

The reference to Thompson in the introduction could be omitted and this would not negatively affect the paper. However, the connection to the themes of "work" and technology" in the stimulus materials is clear

Performance Task 2 Individual Written Argument

Rubric Row 2: Understand and Analyze Context

The response earned 4 points because it makes general comments about the context of the research question. For example, the paper discusses the meaning of the word technology and presents its historical context, including the Industrial Revolution, to show the relationship between wages and technology. At no point, however, does the response indicate its significance by explaining why further investigation is necessary.

Rubric Row 3: Understand and Analyze Perspective

The response earned 4 points because it identifies the complexity of a problem by comparing multiple perspectives. For example, signal phrases like "other economists challenged the optimistic results" tell the reader that the response is comparing multiple perspectives regarding whether technology positively or negatively affects wages, but the comparisons are somewhat general; the perspectives seem to be those that think technology is beneficial and those who think it is not beneficial to wages. As such, the oversimplification of arguments and perspectives preclude the response from putting ideas of differing perspectives in dialogue.

Rubric Row 4: Select and Use Evidence

The response earned 4 points because the response incorporates evidence from a range of sources. While there are several non-academic sources listed on the bibliography (NBC News, *Oxford Dictionary*) they are counterbalanced by several journal articles (e.g., *Economic History Review*). However, the sources are not always relevant to the response's argument. For example, the response poorly summarizes the argument of Alan Krueger--"A study done by Alan Krueger shows that when wages increased in the fast food industry that job growth spurred in workers" and it is not clear how the sources advances the argument regarding technology's impact on wages.

Rubric Row 5: Establish Argument

The response earned 4 points because it is logically organized as it moves from an introduction, to historical background that establishes the value placed on technology for the workplace and its historical connection to wages, to a discussion on the modern relationship between technology and wages. However, there is only a cursory attempt to connect evidence and claims as exemplified by sentences such as this one: "This helps us see that with technology; our GDP has risen meaning that our economy has done well due to the increase in wages and other factors."

Rubric Row 6: Establish Argument

The response earned 4 points because its conclusion-- "technology has affected our wages in a positive way" -- is connected to the research question, but is not detailed. Instead, it relies on the word "positive" to encapsulate its entire stance. Because it does arrive at an eventual stance -- that the effect is positive -- it cannot be described as a "low" response in this rubric row.

Rubric Row 7: Understand and Analyze Argument

The response earned 4 points because there is superficial evaluation of different perspectives--"Though there have been benefits with wage increases in the past, it does not mean wage increase is always perfect"--but it does not consider the implications of these perspectives, as supported by evidence.

Performance Task 2 Individual Written Argument

Rubric Row 8: Apply Conventions

The response earned 2 points because it attributes or cites sources used, but not always accurately. While the References page is mostly complete, sources are not consistently arranged in alphabetical order: The response does not consistently list sources by last name, first name. Additionally, the response's in-text citations are not uniform in style sometimes varying in its choices for capitalization and inclusion of first names, last names, and source titles.

Rubric Row 9: Apply Conventions

This row earned 2 points because there are some sentence-level flaws--"based on the data we need to know"--which occasionally require one to re-read to infer meaning, although the writing style is generally clear. The paper also uses quite a bit of imprecise language-- "times that are more recent," "execution technologies," etc.--that are consistent with a mid-level score.

Sample: C

- 1 Understand and Analyze Context Score: 2
- 2 Understand and Analyze Context Score: 2
- **3 Understand and Analyze Persp Score:** 2
- 4 Select and Use Evidence Score: 2
- **5 Establish Argument Score:** 2
- 6 Establish Argument Score: 2
- 7 Understand and Analyze Arg Score: 2
- 8 Apply Conventions Score: 1
- 9 Apply Conventions Score: 1

LOW SAMPLE RESPONSE

Rubric Row 1: Understand and Analyze Context

The response earned a score of 2 because of its tenuous use of the Thompson source. While the response does identify the thematic connection of the role of technology in human lives, the use of the source does not ascend to "incorporation." Rather than engaging with the quoted material, which conveys the threat of technology on job replacement, the response interprets the information in way that is convenient for its own purpose: "the world or at least parts of the world is constantly evolving into a new era, resulting in new advancements with technology especially."

Rubric Row 2: Understand and Analyze Context

The response earned a score of 2 because its context is overly broad -- trying to discuss all technology and all jobs. Moreover, evidence is not connected back to a wider context.

Rubric Row 3: Understand and Analyze Perspective

The response earned a score of 2 because it poses a simplistic problem: "Is technology replacing humans?" Furthermore, the response cursorily identifies different perspectives (e.g., the benefits of technology in education, the negative repercussions of technology on physical health, the importance of education in determining wages, etc.), but does not develop any of the perspectives enough to allow for any sort of comparison.

Performance Task 2 Individual Written Argument

Rubric Row 4: Select and Use Evidence

The response earned a score of 2 because while the response does use some evidence (e.g., Professor Stuart Russell, <u>www.wired.com</u>, and <u>www.bls.gov</u>), the range is limited. Moreover, the evidence is not used to develop or support an argument, but rather to convey tidbits of information from sources.

Rubric Row 5: Establish Argument

The response earned a score of 2 because the connections between parts of the argument were difficult to discern (e.g., at the bottom of page 1, the response moves from "what we need to avoid" to talking about "wisdom" and education, without any explanation of the connection between those two ideas).

Furthermore, the connections between claims and evidence are either nonexistent or difficult to follow. For example, the response conveys the differential between median salaries for those with or without a high school education and conclusions that the study shows that "the struggles of living increase tremendously causing stress about schooling." However, there's no explanation for why the lack of money would cause stress about schooling specifically.

Rubric Row 6: Establish Argument

The response earned a score of 2 because the response ends with almost the same idea with which it begins: "For ages human tasks consisted of cleaning, cooking, building objects, calculations with the help of mathematical equipment." Moreover, the concluding sentence, "Life is an interesting adventure with wonders on every corner," has no discernable link to the rest of the response.

Rubric Row 7: Understand and Analyze Argument

The response earned a score of 2 because the response has many unsubstantiated statements (e.g., "Because of these

advancements human workers start to lose value and may seem almost little to no valid reason to hire an inexperienced individual when you can find or get what you're looking for in seconds from a machine")

Rubric Row 8: Apply Conventions

The response earned a score of 1 because the citation is incomplete. While the response does provide attribution in its response, there is no provided bibliography.

Rubric Row 9: Apply Conventions

The response earned a score of 1 because the tone is often inappropriate for an academic context (e.g., "Life is an interesting adventure with wonders on every corner"). Moreover, the writing is often cumbersome and difficult to discern (e.g., "The purpose to bring this statement up is to show that, what can potentially help us can also be what we need to avoid.")