Resolved: Creativity is a more powerful force than intelligence

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Topic Analysis

Introduction

"Creativity is intelligence having fun." — Albert Einstein

I am going to be honest. I have been working on this introduction for the last hour. I've started from scratch a dozen times. I've started this by writing about my teen years and how I wanted to be a lawyer because I thought the right answers were all in a book or a class. I tried another where I discussed my choice of AP classes over theatre. However, nothing seemed right. In trying to capture a unique way of introducing the topic for this year's NSDA Big Questions resolution, "Resolved: Creativity is a more powerful force than intelligence," this intro became the topic.

I think I am reasonably intelligent. I had a pretty good speech and debate career in high school and college. My teams have had a lot of success. I work in a field where people call me for advice and guidance for something that has been a part of my life for the last 20 years. With all of this, writing a short introduction to this year's topic should be easy, but here I am, one hour and 12 attempts at this.

Herein lies the crux of the resolution. When weighed on their own, creativity and intelligence can move mountains. Some of the smartest and most intelligent individuals have gone on to change the course of world history while creative solutions and works of art have defined generations and societies. One might even go back to the introductory quote from Einstein and posit that intelligence and creativity are two sides of the same coin. However, that isn't what this resolution wants us to do.

This year's resolution asks us to quantify each aspect as a force and pit them against each other. To do so, it will be necessary to break down the different aspects and qualities of both intelligence and creativity, examine the different subsets of both, and apply real world psychology and philosophy to the resolution. In the following brief, I hope to give you a starting point for this.

It is because of how these two concepts function as a pair together that it is necessary to consider this topic with a nuanced approach. Unlike previous Big Questions topics, a straightforward attack of the resolution and a direct case writing process probably will leave you as stuck as I was when writing this introduction. Apply and isolate the theories you feel best represent the view that you want to take and use those as leverage when case writing.

Let's get started. Good luck.

What is “Creativity”?

Many years ago, I really disliked art class. I disliked art because I felt like I wasn’t creative. Where my peers in art class seemed to have a creative vision, my creative vision seemed to need glasses. In retrospect, it wasn’t that I was uncreative. It was that my creativity came in other forms. Everyone on Earth has creativity regardless of our personal beliefs. Creativity is a fundamental human trait that plays a crucial role in various fand aspects of our daily lives.

Creativity is the ability to produce new and original ideas, solutions, or works of art through imaginative thinking. It involves seeing connections between seemingly unrelated concepts, thinking outside conventional boundaries, and approaching problems or situations in unique ways. Creativity can manifest in various domains.

Creativity can also represent the process of bringing something new and original into existence. This can present as an idea, a product, a piece of art, or a solution to a problem. Creativity allows for out-of-the-box thinking in ways that are different from conventional thought. This breaks free from established norms or what “tradition” dictates and seeing connections between seemingly unrelated concepts. This assists in solving new or unique problems that may never have presented before. The Berlin Airlift was a creative response to a geopolitical situation that the United States had never faced before.

Creativity can be characterized by several core concepts. I have boiled these down to five core concepts.

1. Originality: The creation of ideas or products that are unique and not derived from existing concepts.

2. Value: The ideas or products must be valuable, useful, or meaningful in some way.

3. Imagination: The ability to envision possibilities beyond the current reality, often involving abstract thinking and mental simulation.

4. Cognitive Abilities: Cognitive processes such as divergent thinking, which involves generating multiple solutions to a problem, and convergent thinking, which involves narrowing down these solutions to find the best one, are crucial for creativity. Other cognitive abilities include problem-solving skills, memory, and the ability to make associations between disparate ideas.

5. Knowledge and Expertise: A deep understanding of a particular domain provides the foundation upon which creativity can build. Expertise allows individuals to recognize gaps, opportunities, and potential improvements within their field.

Next, let’s consider how creativity fuels and drives specific fields. This is a sample of the largest areas of study. However, creativity can be applied to almost any field in the real world.

Creativity in the fine arts can show itself as expressing ideas, emotions, and concepts through various artistic mediums such as painting, sculpture, music, dance, theatre, literature, and film. It is characterized by originality, imagination, and the ability to convey a unique perspective. Twenty years ago, very few people would have thought of writing a musical about Alexander Hamilton, but in the year 2024, there are a great number of us who still can't get the songs out of our heads.

1. Visual Arts: Painters, sculptors, and photographers use creativity to produce visually compelling works that evoke emotions, tell stories, or provoke thought. Techniques like color theory, composition, and innovative materials contribute to their creative expression.

2. Music: Composers and musicians create new sounds, rhythms, and harmonies to produce music that can inspire, soothe, or energize. Creativity in music involves not only composing but also interpreting and performing existing pieces in unique ways.

3. Dance: Choreographers and dancers use movement to convey emotions and tell stories. Creativity in dance involves inventing new movements, exploring different styles, and integrating other artistic elements like music and stage design.

4. Theatre: Playwrights, directors, and actors collaborate to bring stories to life on stage. Creative aspects include writing original scripts, designing sets and costumes, and interpreting characters in innovative ways.

5. Literature: Writers use language creatively to craft stories, poems, and essays that engage readers. Creativity in literature involves developing unique plotlines, creating memorable characters, and using literary devices like metaphor and symbolism.

6. Film: Filmmakers combine visual storytelling, dialogue, sound, and editing to create movies that entertain, inform, or challenge audiences. Creativity in film can be seen in the direction, cinematography, special effects, and narrative structure. In science and technology, creativity leads to groundbreaking discoveries and innovations. Creative thinking enables scientists to develop new theories, design experiments, and invent technologies that address complex problems and improve lives.

In the business world, creativity is essential for developing new products, services, and business models. Entrepreneurs rely on creative thinking to identify market opportunities, differentiate themselves from competitors, and drive economic growth. Services that we think of as everyday such as Uber, DoorDash, and Amazon all came about and evolved after putting together two unrelated ideas that improved our quality of life.

1. Product Development: Businesses use creativity to design and develop new products that meet customer needs, solve problems, or create new markets. This can involve rethinking existing products or inventing entirely new ones.

2. Marketing and Branding: Creative marketing strategies help businesses stand out in a crowded marketplace. This includes developing compelling advertising campaigns, creating memorable brand identities, and using innovative channels to reach customers.

3. Problem-Solving: Businesses often face complex challenges that require creative solutions. This could involve brainstorming sessions, design thinking workshops, or encouraging a culture of innovation where employees feel empowered to suggest and implement new ideas.

4. Customer Experience: Enhancing the customer experience through creative approaches can build loyalty and drive sales. This might include personalized services, unique customer interactions, and innovative loyalty programs.

5. Leadership and Management: Creative leadership involves inspiring and motivating teams, thinking strategically, and being open to new ideas and perspectives. Effective leaders encourage a culture of creativity and innovation throughout the organization.

Creativity plays a crucial role in science by driving curiosity, discovery, and a desire to problem-solve some of humankind's greatest problems. The entire space race was built on creative solutions to problems that nobody has ever had to face. During the Apollo 11 mission, a small switch in the lander broke. With no tools to fix it, the module would have been unable to leave the lunar surface. In a flash of quick thinking, Neil Armstrong realized that the marker in his pocket would fit in the spot left by the switch. This fix provided a quick fix that saved the mission.

1. Hypothesis Formation: Creativity allows scientists to think outside the box and formulate novel hypotheses. It enables them to see connections that others might overlook and ask questions that lead to new lines of inquiry.

2. Experimental Design: Creative thinking is essential in designing experiments. It helps in developing unique methodologies, creating innovative tools, and finding ways to test hypotheses effectively and efficiently.

3. Problem Solving: Science often involves solving complex problems. Creativity helps scientists approach these problems from different angles, leading to breakthroughs that might not be possible through conventional thinking.

4. Technological Innovation: Many scientific advances depend on the development of new technologies. Creative engineering and design can lead to the creation of tools and instruments that expand the boundaries of what is scientifically possible.

5. Interdisciplinary Research: Creativity fosters interdisciplinary approaches, combining insights and techniques from different fields to tackle complex scientific questions. This can lead to innovative solutions and new areas of study.

6. Adaptability and Flexibility: Creative scientists are often more adaptable and open to change. This flexibility allows them to pivot and adjust their approaches when faced with unexpected results or new information.

Now that we have covered the aspects and elements of creativity, we will now examine how creativity impacts and guides the human thought process.

Creativity and Innovation

Creativity is the lifeblood of innovation and progress. Famed physicist Dr. James Van Allen of the University of Iowa once stated that creativity is the spark that ignites new ideas, the force that drives artistic expression, and the engine behind problem-solving in every field. In a rapidly changing world, the importance of creativity cannot be overstated.

Innovation is the process of envisioning or dreaming of new products and then converting new these thoughts into a tangible product or service that adds value to our lives. For instance, if you see that your classmates are having back problems caused by ill-fitting or improperly loaded backpacks, you might spend some time redesigning the carry strap or the inner compartment into something that distributes the weight better. This innovation not only could help your classmates, but if sold to a backpack manufacturer, it could end up revolutionizing the design of future backpacks around the world.

Creativity is critical to innovation. Without it, there would be no new or novel ideas to develop and bring to market. In technology, for example e, creative thinking has led to groundbreaking advancements such as the internet, smartphones, and artificial intelligence/artificial generative programs. Companies like Apple and Google thrive on creativity, continuously pushing the boundaries of what is possible and setting new standards in their industries. Creativity fuels the innovative mindset needed to tackle the world's most pressing challenges, from climate change to healthcare.

Creativity enhances problem-solving by allowing individuals to think outside the box and consider multiple perspectives. Traditional linear thinking often falls short in addressing complex issues, whereas creative problem-solving encourages a more holistic approach. This involves looking at problems from various angles, generating a wide range of possible solutions, and combining ideas in new ways.

Creativity significantly improves the quality of life by enriching our experiences and personal well-being. Artistic expression allows individuals to connect with their emotions, communicate their experiences, and understand the world around them. Engaging in creative activities has been shown to reduce stress, enhance mental health, and increase overall happiness. Furthermore, creativity in urban planning and architecture can lead to more aesthetically pleasing and functional living environments, contributing to a higher standard of living.

In an unpredictable world, adaptability and resilience are crucial. Creativity cultivates these qualities by encouraging flexibility and openness to new experiences. Creative individuals are better equipped to handle change, as they can envision alternative scenarios and pivot when necessary. This adaptability is particularly important in the face of global challenges such as economic downturns, environmental crises, and pandemics. By fostering a creative mindset, individuals and organizations can navigate uncertainty more effectively and emerge stronger from adversity.

Creativity and Curiosity

Creativity and curiosity go together. At both of their cores, they are rooted in a love of learning. It drives individuals to explore new ideas, acquire new skills, and seek out new opportunities. This passion for lifelong learning is essential in a world where knowledge and technology are constantly evolving. Fostering creativity helps students develop critical thinking skills, embrace diverse perspectives, and become more engaged in their learning journey. Lifelong learners are better prepared to adapt to new career opportunities and contribute meaningfully to society.

Creativity is often associated with an inquisitive nature. Dr. Neil Degrasse Tyson has said that the single most powerful force that humankind possesses is that of our ability to ask questions and seek answers to complex problems. By this question-and-answer process, humans have cured disease, split the atom, and put humans into space. As he furthers, it is interesting to note that in recent times, our inquisitive nature seems to be diminishing. During the space race, both Bill Gates and Steve Jobs were 10 and 12 years old respecify. Dr. Tyson attributes their success to the developments in science during their youth.

Today, we are in a different world. Children start out as investigators. Talk with a 5-year-old and see what they ask you. I can tell you that years ago when I was talking with my young cousins, they wanted to know why the trees died during the winter, where the sun went at night, did the light in the fridge stay on when we close the door, or why do they have toes. A young mind is set to investigate and seek knowledge. Dr. Tyson points out that as we grow older, the younger generations seem to seek less and less. Instead of investigation, they seek linear knowledge. They seek knowledge geared towards passing tests and not solving problems.

What is “Intelligence”?

This might be a stereotype, but as a debater, I really wanted to be a lawyer. I’m sure that if you polled the field at any given debate tournament, the top two careers would either be doctor or lawyer. That was 23 years ago, and I am not a lawyer. I’m very happy with where I am in life, but I am not where I thought I’d be at age 15. So, what changed, you might ask?

Years ago, I realized that just because I had at least passable answers in crossfire and I had a good number of blocks (by 2005 PF standards), I still had a long way to go. By the time I hit college, I realized that I might be intelligent, but with a different set of skills. I found in college that my skills were in researching and strategy. I was less of a Jack McCoy and more of a Sun Tzu. My skills didn’t fit as a lawyer, but they sure fit in as a debate coach and educator.

Intelligence is defined as the capacity to acquire and apply knowledge and skills. It involves a combination of cognitive abilities that enable individuals to navigate and make sense of the world around them. It is important to note that the ways that we normally think of our intelligence, usually defined as a score on a test, only encompasses a tiny fraction of the larger whole of intelligence. I had the skills to be a good debater and coach, but not a good law school candidate.

Psychologists have proposed various definitions and theories of intelligence, and I have condensed these down to a core five concepts.

1. Reasoning: The ability to think logically and make sense of complex information.

2. Problem-Solving: The capacity to identify, analyze, and find solutions to problems.

3. Learning: The ability to acquire new knowledge and skills through experience and education.

4. Adaptability: The capacity to adjust to new situations and environments.

5. Abstract Thinking: The ability to understand and manipulate abstract concepts and ideas.

Intelligence encompasses a range of cognitive abilities and processes, including reasoning, problem-solving, learning, adaptability, and abstract thinking. It is influenced by both genetic and environmental factors and plays a significant role in education, the workplace, personal development, and social interactions. Various theories, such as Spearman's G-factor, Gardner's Multiple Intelligences Theory, Sternberg's Triarchic Theory, and the CHC Model, provide different perspectives on the nature and structure of intelligence. Understanding and nurturing intelligence in its many forms can help individuals and societies achieve greater success and well-being.

What makes intelligence hard to define is the multiple natures that it can present in all individuals.

1. Fluid intelligence refers to the capacity to think logically and solve problems in novel situations, independent of acquired knowledge. It involves the ability to analyze information, identify patterns, and make inferences. Fluid intelligence is essential for tasks that require adaptive thinking, creativity, and the ability to deal with new and unfamiliar challenges.

   Fluid intelligence is contrasted with crystallized intelligence, which refers to the accumulation of knowledge, facts, and skills that one has learned through experience and education. While fluid intelligence involves the ability to learn and solve new problems, crystallized intelligence relies on accessing and applying previously acquired information. Both types of intelligence are important and complement each other in various cognitive tasks.

2. Emotional intelligence is the ability to recognize, understand, manage, and influence one's own emotions and the emotions of others. It involves a set of skills that help individuals navigate social complexities, build strong relationships, and make informed decisions. Emotional intelligence can be beneficial in various aspects of life, including personal relationships, workplace interactions, and leadership roles.

   Emotional intelligence, a subset of overall intelligence, plays a significant role in how people manage their emotions and understand themselves. Self-awareness involves recognizing one's own emotions and how they influence thoughts and behaviors. Emotional regulation refers to the ability to manage and respond to emotions constructively. These skills are essential for maintaining mental health and well-being. For example, someone with high emotional intelligence can navigate stressful situations calmly, maintain emotional balance, and avoid impulsive reactions.

   Empathy, another component of emotional intelligence, is the ability to understand and share the feelings of others. It fosters strong interpersonal relationships by promoting compassion, cooperation, and effective communication. In personal relationships, empathy helps individuals connect with loved ones, resolve conflicts, and build trust. In professional settings, it enhances teamwork and collaboration, leading to a more harmonious and productive work environment.

3. Practical intelligence, often referred to as "street smarts" or "common sense," is the ability to solve everyday problems and navigate various life situations effectively. It involves the capacity to adapt to, shape, and select environments to meet personal and social goals. Practical intelligence is distinct from analytical and academic intelligence, as it focuses more on real-world applications and problem-solving.

   Practical intelligence is often developed through life experiences, observation, and learning from others. It complements analytical intelligence by providing the know-how to apply theoretical knowledge in practical, real-world situations.

Now that we have looked at the components and forms of intelligence, lets dive a bit deeper into how intelligence manifests to each of us.

Intelligence Theories

I realize that I listed several theories of intelligence in the previous section without much explanation. Below is a summary and overview of those theories. My attempt by separating this is to keep the information compartmentalized and easy to divide.

Spearman's G-factor is a concept in psychology that was first introduced by Charles Spearman in the early 20th century. Spearman observed that people who perform well on one type of cognitive task tend to perform well on other types of cognitive tasks, even if the tasks are quite different. This led him to propose that a single underlying factor, which he called g, contributes to performance across a variety of cognitive abilities.

General Intelligence: Spearman's G-factor represents general intelligence, a broad cognitive ability that influences performance on all types of intellectual tasks.

Factor Analysis: Spearman used a statistical technique called factor analysis to identify the G-factor. He found that scores on different cognitive tests tended to correlate positively with each other, suggesting the presence of a common underlying factor.

Specific Abilities: In addition to the G-factor, Spearman also acknowledged the existence of specific factors (denoted as s) that influence performance on tasks. While G accounts for overall cognitive ability, s-factors are responsible for strengths in specific areas (i.e.., mathematical ability, verbal ability).

Howard Gardner 1983 theory challenges the traditional notion of a single general intelligence. Instead, Gardner states that humans have several different types of intelligences, each representing different ways of processing information.

1. Linguistic Intelligence: The ability to use language effectively, both in terms of speaking and writing. Examples include poets, writers, and speakers.

2. Logical-Mathematical Intelligence: The capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. This intelligence is often associated with mathematicians, scientists, and engineers.

3. Musical Intelligence: Skill in performing, composing, and appreciating musical patterns. Musicians, composers, and conductors are examples of people with high musical intelligence.

4. Bodily-Kinesthetic Intelligence: The ability to use one's body effectively, like a dancer or surgeon, or to manipulate objects skillfully. Athletes, dancers, and craftspeople typically excel in this area.

5. Spatial Intelligence: The ability to think in three dimensions, crucial for architects, artists, and engineers. This intelligence involves spatial judgment and the ability to visualize with the mind's eye.

6. Interpersonal Intelligence: The ability to understand and interact effectively with others. It involves effective verbal and non-verbal communication, the ability to note distinctions among others, sensitivity to the moods and temperaments of others, and the ability to entertain multiple perspectives.

7. Intrapersonal Intelligence: The capacity to understand oneself, to appreciate one's feelings, fears, and motivations. It involves having an effective working model of oneself and using such information to regulate one's life.

8. Naturalistic Intelligence: The ability to recognize and categorize plants, animals, and other objects in nature. This intelligence was added later by Gardner and is evident in individuals like biologists and naturalists.

Modern theorists and psychologists have added a ninth intelligence.

9. Existential Intelligence: Some have suggested the inclusion of a ninth type, existential intelligence, which involves the ability to ponder deep questions about existence, such as the meaning of life.

Sternberg's Triarchic Theory of Intelligence, developed by psychologist Robert J. Sternberg, is a model that proposes that human intelligence can be understood through three distinct components or "sub-theories." Unlike traditional views of intelligence that focus primarily on analytical abilities, Sternberg's theory encompasses a broader range of cognitive processes.

The Three Components of Sternberg's Triarchic Theory

Analytical Intelligence

This type of intelligence is closest to the traditional notion of intelligence measured by IQ tests. It involves the ability to analyze, evaluate, judge, compare, and contrast.

Creative Intelligence

This form of intelligence involves the ability to deal with new and unusual situations by drawing on past experiences and knowledge. It relates to how well a person can adapt to novel tasks and think creatively.

Practical Intelligence

Practical intelligence is the ability to adapt to, shape, or select environments to meet both personal and societal needs. It's about applying knowledge to real-world contexts.

The Cattell-Horn-Carroll (CHC) Theory is a framework for understanding human cognitive abilities, integrating ideas from several major theories of intelligence. It is one of the most widely accepted and empirically supported models in psychology, especially in the field of cognitive assessment.

Stratum I: Narrow Abilities

At the most specific level, the CHC model identifies many narrow abilities. These are specific, focused skills or cognitive functions, such as visual memory, reading speed, or numerical reasoning. There are over 70 narrow abilities identified within this stratum.

Stratum II: Broad Abilities

Above the narrow abilities are several broad abilities. These are clusters of related narrow abilities and represent broader domains of cognitive functioning. The CHC model typically identifies 8 to 10 broad abilities.

Stratum III: General Intelligence

At the top level of the CHC model is the general intelligence factor, often referred to as G. This represents the overall mental ability that underlies and influences all cognitive tasks. While the broad and narrow abilities provide detailed insights into specific strengths and weaknesses, this gives a sense of overall cognitive capacity.

Applying Intelligence to the Everyday

One of the most commonplace applications of intelligence is in problem-solving and decision-making. Analytic thinking is the cognitive process that involves breaking down complex information or problems into smaller, more manageable parts to understand them better, make decisions, or solve problems. Analytical thinking allows individuals to break down complex issues into manageable parts, making it easier to identify solutions. Critical thinking involves evaluating information, discerning biases, and making informed choices.

Creative thinking, on the other hand, encourages looking beyond conventional solutions and generating innovative ideas. For instance, in the workplace, professionals use these skills to develop strategies, address challenges, and innovate within their fields.

Intelligence is crucial for acquiring new knowledge and skills. It enables individuals to absorb information, understand complex concepts, and apply learning to various contexts. This ability to learn and adapt is vital in an ever-changing world. For example, students use cognitive intelligence to master classes in school, while professionals continually update their skills to stay relevant in their careers. In both scenarios, previous knowledge is built on to so that new ideas and information can build links back to old knowledge.

Adaptability, a key aspect of intelligence, allows individuals to adjust to new environments and situations, facilitating continuous personal and professional growth. It is common that new material or situations can be stressful. Adaptability allows the individual to create internal orders of operation so that they can better tackle the problem at hand.

Intelligence is also critical in resolving conflicts and working effectively in teams. Conflict resolution requires the ability to understand different perspectives, mediate disagreements, and find mutually beneficial solutions.

Teamwork involves collaborating with others, leveraging diverse skills and viewpoints, and working towards common goals. Both require high levels of cognitive and emotional intelligence. For example, in a business setting, effective conflict resolution and teamwork can lead to increased productivity and a positive organizational culture.

The Topic and Philosophy/Psychology

The relationship between creativity and intelligence has been a topic of philosophical debate for centuries. While both are highly valued traits that contribute significantly to human progress and individual success, their exact nature and interplay remain subjects of ongoing inquiry. Philosophers, psychologists, and educators have long debated whether creativity and intelligence are distinct entities or intertwined aspects of cognitive functioning.

Let's review the concepts of creativity and intelligence.

Creativity is generally understood as the ability to generate novel and original ideas, approaches, or solutions. It involves imaginative thinking, seeing connections between seemingly unrelated concepts, and breaking away from conventional patterns. Creativity is often associated with the arts, but it is equally important in fields like science, business, and technology, where innovative thinking can lead to groundbreaking discoveries and advancements.

Intelligence, on the other hand, is typically defined as the capacity for learning, reasoning, understanding, and problem-solving. It encompasses a wide range of cognitive abilities, including logical thinking, analytical skills, and memory. Intelligence is often measured through standardized tests that assess these abilities, although there is ongoing debate about the adequacy of such measures in capturing the full spectrum of human intelligence.

One of the central questions in the philosophical debate is whether creativity is a component of intelligence or a separate, distinct attribute. Some theories propose that creativity and intelligence are closely related and that high levels of intelligence facilitate creative thinking. Others argue that creativity and intelligence operate independently, each contributing uniquely to human achievement.

In 1977, Toukomaa and Skutnabb-Kanga proposed the Threshold Theory. This theory proposes that a certain level of intelligence is necessary for creativity, but beyond that threshold, the relationship between the two weakens. According to this theory, individuals with below-average intelligence are unlikely to exhibit high creativity because they lack the cognitive resources needed for creative thinking. However, among those with average or above-average intelligence, other factors, such as personality traits and environmental influences, become more significant in determining creative potential.

Psychologist Robert Sternberg's Componential Theory of Creativity suggests that creativity involves three main components: intellectual abilities, knowledge, and thinking styles. Intellectual abilities include the capacity to see problems in new ways, the ability to recognize which ideas are worth pursuing, and the skills to convince others of the value of these ideas. This theory supports the notion that certain intellectual abilities, which are part of traditional definitions of intelligence, play a crucial role in creative thinking.

There are important distinctions between creativity and intelligence that fuel the debate. Creativity is often seen as a divergent thinking process, where multiple solutions and ideas are

generated from a single starting point. Intelligence, particularly as measured by IQ tests, is more aligned with convergent thinking, which involves finding the single best solution to a problem.

Philosopher J.P. Guilford introduced the concepts of convergent and divergent thinking to distinguish between the processes associated with intelligence and creativity. Convergent thinking involves logical reasoning, factual knowledge, and the ability to apply learned information to solve problems with clear answers. Divergent thinking, in contrast, is characterized by the generation of multiple, unique solutions and the exploration of novel ideas. This distinction underscores the different cognitive processes underpinning intelligence and creativity.

The methods used to measure and evaluate creativity and intelligence also highlight their differences. Intelligence is often quantified using standardized tests that yield numerical scores representing cognitive abilities. Creativity, however, is more challenging to measure due to its subjective nature and the diversity of its manifestations. Assessments of creativity might include evaluations of artistic work, the originality of ideas, or the ability to generate multiple solutions to open-ended problems. These differing approaches to measurement reflect the complex and multifaceted nature of both constructs.

The philosophical debate between creativity and intelligence has significant implications for education, talent development, and societal progress. If creativity and intelligence are closely related, educational systems should emphasize both critical thinking and imaginative exploration. If they are distinct, tailored approaches may be necessary to nurture each trait individually. It was this debate that led to the swing in removing fine arts programs from schools and the revival of public fine arts programs.

Some theories, such as Howard Gardner (covered in a previous section) suggests that creative and analytical intelligence are separate domains within a broader spectrum of cognitive abilities. Others argue that creativity is inherently linked to intelligence, as the ability to think creatively often requires a certain level of intellectual capability. This raises questions about whether high intelligence naturally leads to high creativity or if the two can exist independently.

While intelligence and creativity can be viewed as distinct cognitive abilities, their interconnections and the ways in which they complement each other are equally important. As a society, we seek to recognize the value of both and striving to nurture them through balanced educational practices can lead to more innovative and effective problem-solving capabilities in individuals.

Conclusion

From July 31 to August 4, I was lucky enough to spent five days in Indianapolis for GenCon. GenCon is the largest tabletop gaming convention in the U.S. 70,000 people from over 40 countries and every U.S. state packed into the Indianapolis Convention Center, Lucas Oil Field, and several downtown hotels for four days of gaming. During this trip, I was able to meet and talk to hundreds of gamers, designers, and content creators. For the four days of the convention, this small area of Indianapolis was a living example of the topic in motion.

Each year, hundreds of new games come to market. Each one was derived from a someone's dream. An idea that began life as a weird idea or a casual joke was put to paper. Paper led to design, leading to proxying and testing. Eventually, from its humble start as a scribble on a piece of paper, the ideas were taken to market, printed, shipped, and sold. Throughout this process, both creativity and intelligence had their parts to play.

At GenCon, dozens of games held either Regional/National Qualifying tournaments or National/World Championships. For these participants, the old motto "Chance favors the prepared mind" rules supreme. In most games, chance and randomicity does have its place, solid strategy and pregame prep have a direct influence on your odds of winning. For instance, I am a devoted Magic: The Gathering player. I love the idea of themes for my decks, but at the end of the day, I must pick the best cards and strategies that will set me up for the best chances of winning. Like a debater writing their AT blocks, I spend hours reading into the current meta to pick the sideboard cards that best allows me to counter my potential opponent's deck.

Role playing games like Dungeons and Dragons require the dungeon master to craft a world and story that rivals any fantasy book or story. Characters are built based on the ideas and thoughts of the players. Despite the best attempts by the dungeon master, even their best laid plans often go ad lib. At Dungeons and Dragons LIFE, the dungeon master said "Oh, we haven't been following my campaign notes for the last 20 minutes."

So, what does this demonstrate beyond why gaming conventions are the best? In this one spot, at any given time, 70,000 people were demonstrating a dance between creativity and intelligence. Often, one would need to flip a switch and jump from various levels of both. To design and sell a game, run an RPG campaign, win a game of Magic, or participate in any of the workshops, you must be flexible. You must be able to react to your situation. You need to be willing to put yourself out there and just take a chance.

As you prepare for the Big Questions season, I want to echo a statement that I heard while walking through the Dungeons and Dragons gaming section at Lucas Oil Field. This gaming party was facing down a giant serpent that could breathe icy wind. One player attempted to rally their party. Their words are as true for Dungeons and Dragons as it is for debate: "Good tales don't get made at home where things are safe."

Case Materials

Contention Ideas

Creativity

1. Creativity drives innovation and cultural enrichment. Artistic endeavors, from visual arts to music and literature, contribute to societal values, aesthetics, and identity. Creative works reflect and shape cultural narratives, influence social trends, and offer new perspectives on human experiences.

2. In innovation, creativity leads to the development of groundbreaking products, services, and business models. Entrepreneurs and inventors rely on creative thinking to disrupt existing markets and introduce novel solutions that address emerging needs and opportunities.

3. Creativity has a significant impact on the economy through the creation of new industries and job opportunities. The creative industries, including design, entertainment, and media, contribute to economic growth and diversification. Creative entrepreneurs often drive economic development by launching innovative startups and fostering new market sectors.

4. Creativity enhances competitive advantage and adaptability in businesses. Companies that encourage creative thinking among their employees are better positioned to respond to market changes, develop unique value propositions, and maintain a dynamic organizational culture.

5. Creative activities contribute to personal fulfillment and mental well-being. Creative expression offers a means of coping with stress, exploring emotions, and finding joy in self-expression. This aspect of creativity enriches individual lives and fosters a sense of purpose and satisfaction.

Intelligence

1. Intelligence drives progress in fields requiring technical skills and knowledge. For instance, advancements in science, engineering, and medicine often stem from individuals and teams who excel in analytical thinking and problem-solving. Intelligence contributes to technological innovations, medical breakthroughs, and the development of complex systems that underpin modern economies.

2. In the business world, intelligence facilitates strategic decision-making, financial management, and operational efficiency. Skilled professionals use their cognitive abilities to analyze data, forecast trends, and implement effective strategies that drive organizational success.

3. Intelligence plays a crucial role in educational attainment and professional success. Academic systems often emphasize intellectual abilities, with standardized tests and grades serving as measures of cognitive skills. High intelligence is associated with academic excellence and career advancement, as it enables individuals to grasp complex concepts and excel in specialized fields.

4. Intelligent individuals are adept at solving complex problems and making informed decisions. In critical situations, such as emergency responses or strategic planning, intelligence allows for the efficient processing of information and the formulation of effective solutions. This cognitive capability is essential for managing crises and navigating intricate challenges.

Definitions

Creativity:

Robert E., "What is creativity?", https://www.csun.edu/~vcpsy00h/creativity/define.htm

The tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others.

Force:

"POWERFUL FORCE definition in American English", No Publication, https://www.collinsdictionary.com/us/dictionary/english/powerful-force

The term of art, “powerful force” as a strong or guiding power that influences or takes over control.

"Force", https://www.psychology-lexicon.com/cms/glossary/39-glossary-f/9122-force.html

In psychology, force refers to a concept that involves the influence that one person, group, or entity has over another person, group, or entity.

Than:

"Than Definition & Meaning", https://www.britannica.com/dictionary/than

Used to introduce the second or last of two or more things or people that are being compared — used with the comparative form of an adjective or adverb

"Definition of THAN", https://www.merriam-webster.com/dictionary/than

Used as a function word to indicate the second member or the member taken as the point of departure in a comparison expressive of inequality —used with comparative adjectives and comparative adverb.

"Definition of THAN", https://www.merriam-webster.com/dictionary/than

Used as a function word to indicate difference of kind, manner, or identity —used especially with some adjectives and adverbs that express diversity

Intelligence:

"Definition of INTELLIGENCE", https://www.merriam-webster.com/dictionary/intelligence

Intelligence: The ability to learn or understand or to deal with new or trying situations: reason. also: the skilled use of reason. (2) : the ability to apply knowledge to manipulate one's environment or to think abstractly as measured by objective criteria (such as tests)

Annika Weder, 10-5-2020, "Q&A – What Is Intelligence? “, https://www.hopkinsmedicine.org/news/articles/2020/10/qa--what-is-intelligence

Intelligence can be defined as the ability to solve complex problems or make decisions with outcomes benefiting the actor and has evolved in lifeforms to adapt to diverse environments for their survival and reproduction.

Affirmative Sample Case

Famous journalist and author Elizabeth Gilbert once said: “A creative life is an amplified life. It's a bigger life, a happier life, an expanded life, and a hell of a lot more interesting life.”

It is because I agree that creativity enhances the power of life and changes the worldview of the individual that I affirm the resolution, “Resolved: Creativity is a More Powerful Force Than Intelligence.”

Before we begin, I would like to lay out a few definitions.

California State Northridge defines creativity as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others.

Collins Dictionary defines the term of art, “powerful force” as a strong or guiding power that influences.

Johns Hopkins School of Psychology states that Intelligence can be defined as the ability to solve complex problems or make decisions with outcomes benefiting the actor and has evolved in lifeforms to adapt to diverse environments for their survival and reproduction.

Before we begin today, I would like to state a few observations.

1. The resolution asks us to determine which is the more powerful force. This does not mean that the aff must disprove that intelligence isn’t necessary or a factor in our decisions. All that I need to do is to show that creativity drives intelligence. The implication of this means that offensive turns do not matter as they imply that you need to show harms.

2. The resolution does not require that we show that one is inferior or unimportant.

3. As per our definitions, creativity and intelligence both function to solve problems. The quality that also something a problem is that it hasn’t been encountered by the individual or group before. Intelligence works on the premises of previous knowledge. Thus, the encounter would have been seen before and thus, it would not be a problem. At that point, the unknown issue or problem would demand creativity to solve. The implications of this means that the aff wins by definitional default.

Contention 1: Creativity Drives Innovation and Progress

Creativity is the cornerstone of innovation. Throughout history, the most significant advancements in technology, art, and science have stemmed from creative thinking. Consider the invention of the wheel, the creation of the internet, or the masterpieces of Leonardo da Vinci and Pablo Picasso. Stanford University states that these achievements were not merely the result of high intelligence but of imaginative thinking and the ability to see beyond the conventional. Creativity allows individuals to transcend existing knowledge and generate novel ideas that can revolutionize industries and societies.

For example, Corporate Magic states that Steve Jobs, co-founder of Apple Inc., was renowned for his creative vision. While his intelligence was undeniable, it was his creative thinking that led to the development of groundbreaking products like the iPhone, which transformed the way people communicate and interact with technology. Jobs' ability to envision the future and create products that people had never imagined before exemplifies the power of creativity in driving progress.

Contention 2: Creativity Fosters Adaptability in a Rapidly Changing World

In today's fast-paced and ever-changing world, adaptability is crucial. Creativity equips individuals with the ability to think flexibly and adapt to new circumstances. Frontiers states that while intelligence involves the acquisition and application of knowledge, creativity involves thinking outside the box and finding innovative solutions to unforeseen challenges.

The COVID-19 pandemic illustrated the importance of adaptability and creative problem-solving. Nature says that businesses, educators, and healthcare providers had to quickly adapt to new realities. Those who were able to think creatively found ways to continue their operations and serve their communities effectively. For instance, many companies transitioned to remote work, using creative approaches to maintain productivity and employee engagement. Educational institutions adopted innovative online learning methods, ensuring that students could continue their education despite the disruptions.

Contention 3: Creativity Enhances Problem-Solving and Critical Thinking Skills

While intelligence provides the foundation for understanding and analyzing information, creativity enhances problem-solving and critical thinking skills by encouraging individuals to explore multiple perspectives and solutions. The Harvard School of Business states that creative thinkers are not confined to linear thinking; they can approach problems from various angles and develop unconventional solutions.

Consider the field of scientific research. Breakthroughs often occur when scientists apply creative thinking to their experiments. The discovery of penicillin by Alexander Fleming is a prime example. The American Chemistry Society states that Fleming’s creative observation of mold killing bacteria in a petri dish led to the development of antibiotics, which revolutionized medicine and saved countless lives. This discovery was not solely the result of intelligence but of a creative approach to scientific inquiry.

Moreover, IDEO U says that creative problem-solving is essential in addressing complex global challenges such as climate change, poverty, and social inequality. These issues require innovative solutions that go beyond traditional methods. Creative thinkers can develop sustainable technologies, design effective policies, and inspire collective action, demonstrating the power of creativity in making a positive impact on society.

Creativity is a more powerful force than intelligence because it drives innovation and progress, fosters adaptability in a rapidly changing world, and enhances problem-solving and critical thinking skills. While intelligence is undoubtedly valuable, it is the creative application of

knowledge that leads to groundbreaking advancements and solutions. By embracing creativity, individuals and societies can navigate challenges, seize opportunities, and achieve extraordinary outcomes. Therefore, we must recognize and nurture creativity as a vital force in shaping a better future.

I urge an affirmative ballot. Thank you.

Negative Sample Case

Baseball player and coach Elwood Hendricks once said: “To meet the great tasks that are before us, we require all our intelligence, and we must be sound and wholesome in mind. We must proceed in order.”

It is because I agree that intelligence is a necessity to solve the greatest problems of the world that I negate the resolution, “Resolved: Creativity is a More Powerful Force Than Intelligence.”

Before we begin, I would like to lay out a few definitions.

California State Northridge defines creativity as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others.

Collins Dictionary defines the term of art, “powerful force” as a strong or guiding power that influences or takes over control.

Webster’s Dictionary defines intelligence as the ability to learn or understand or to deal with new or trying situations: reason. also: the skilled use of reason. (2) : the ability to apply knowledge to manipulate one's environment or to think abstractly as measured by objective criteria (such as tests)

Before we begin today, I would like to state a few observations.

1. The resolution asks us to determine which is the more powerful force. This does not mean that the neg must disprove that creativity isn’t necessary or a factor in our decisions. All that I need to do is to show that intelligence defines creativity. The implication of this means that offensive turns do not matter as they imply that you need to show harms.

2. The resolution does not require that we show that one is inferior or unimportant.

3. As per our definitions, creativity and intelligence both function to solve problems. Even in a dire situation, we must understand the world around us before we can react and start the creative process. Take for instance a 7-year-old that encounters a locked box. For them to be able to figure out what tools and items around them might work to open the box, they must need to first know what the primary function of those tools are used for as their primary function, why the box is closed, and that the box can be opened in the first place. This demonstrates that intelligence is needed for the creative process to begin first. This means that the neg wins based on the presumption that intelligence must exist for creativity to exist.

Contention 1: Intelligence Provides Foundational Knowledge

Intelligence is the bedrock upon which creativity builds. Creative ideas often stem from a deep understanding of existing knowledge and concepts, which requires intelligence. The SCIP states that without a strong foundation of knowledge, creative ideas may lack the substance needed to

be feasible or impactful. For instance, scientific breakthroughs often require extensive background knowledge and understanding before any creative hypotheses can be formulated.

Consider the field of medical research. Harvard Medical School says that developing a new drug involves creative thinking, but it also necessitates a deep understanding of biochemistry, pharmacology, and human physiology. Researchers must be intelligent enough to comprehend complex biological systems and existing literature. Without this intellectual foundation, creative ideas for new treatments would be baseless and potentially harmful.

Contention 2: Intelligence is Essential for Implementation and Scalability

While creativity can generate novel ideas, intelligence is crucial for the systematic implementation and scalability of these ideas. The University of Idaho states that transforming a creative concept into a tangible product or solution requires logical thinking, analytical skills, and the ability to navigate complex systems. Intelligent planning, execution, and management are necessary to bring creative ideas to fruition in a sustainable and efficient manner.

Take the example of the tech industry. Creating a revolutionary product like the iPhone required not only Steve Jobs' creative vision but also the intelligence of countless engineers and designers who understood the intricacies of hardware and software development. Their ability to systematically implement and scale Jobs' creative ideas was crucial to the success of the product. The Harvard Business Review concludes that when it comes to Steve Jobs, intelligence ensured that the creative concept was technically viable and could be produced and distributed on a large scale.

Contention 3: Intelligence Enables Critical Evaluation and Refinement

The American Military University states that intelligence allows for the critical evaluation and refinement of creative concepts. While creativity can generate a multitude of ideas, not all of them are practical or beneficial. Intelligent analysis is necessary to assess the viability, potential impact, and ethical implications of creative ideas. This process ensures that only the most promising and feasible ideas are pursued and developed.

Consider the peer review process in academic research. The Coastal Pines Technology College states that researchers submit their creative ideas and findings to be critically evaluated by their peers. This process, which relies heavily on intelligence, ensures that the research is rigorous, valid, and contributes meaningfully to the field. Without intelligent evaluation, creative ideas might lack the necessary scrutiny and could lead to false conclusions or harmful applications.

Intelligence is a more powerful force than creativity because it provides the foundational knowledge necessary for creative ideas to be feasible and impactful, is essential for the systematic implementation and scalability of creative ideas and enables critical evaluation and refinement. While creativity is undoubtedly valuable, it is intelligence that ensures creative ideas are grounded, can be effectively executed, and are critically assessed. By recognizing the importance of intelligence, we can better harness the potential of creativity to achieve meaningful and sustainable progress. Therefore, intelligence should be seen as the more powerful force in driving human advancement.

I urge a negative ballot. Thank you.

Affirmative Evidence

Creativity allows us to synthesize intellectual information

Raya, M. Oct 11 2023. "The reciprocal relationship between openness and creativity: from neurobiology to multicultural environments"

National Library of Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10598598/

An individual's capacity for openness, particularly when expressed as an openness to diversity, influences their ability to navigate effectively and thrive in culturally heterogeneous environments, and has been shown to correlate with a reduction of in-group biases, improved intercultural communication, and better conflict resolution skills (6, 10–12). **Creativity, a distinct construct that is nonetheless highly related to the personality trait of openness, describes the mental agility needed to perceive and embrace novel esthetic and intellectual information in order to synthesize it with the goal of generating original ideas, concepts, and works of art** (6, 9, 13, 14). While openness does not in itself presuppose generation of novel work but is limited to an attitude of receptiveness toward novelty, **creativity by definition involves the production of novel intellectual, esthetic, or physical materials.** Silvia and colleagues found that trait openness was a significant predictor of creative achievement across several domains, including writing, visual arts, and music (9). Individuals high in trait openness are more likely to engage in activities that expose them to a broad range of experiences, and this exposure can provide them with a greater repertoire of knowledge and ideas that can be drawn upon during the creative process (15, 16).

Creativity is a natural part of human nature

Connolly, Jim., 2023 The link between a high IQ and high creativity, https://www.creativethinkinghub.com/link-between-high-iq-and-creativity/

It seems that there's a good reason why so many artists have an average IQ (or measured intelligence level] and why some people with extremely high IQ's struggle to be creative.

For instance, a very well known **1962 study by Getzels and Jackson, tested high school students for IQ and creative thinking. The conclusion was interesting. It showed that high IQ and high levels of creativity, tended to be mutually exclusive.**

The majority of the highest scoring students were either highly creative people or they were highly intelligent, but not both.

Dr. Donald MacKinnon: Creative thinking is a skill that can be learned

The late creative thinking expert, **Psychology Professor Dr. Donald MacKinnon, studied creativity for decades. He observed scientists, writers, engineers and doctors, who were regarded as highly creative by their colleagues and found they were no more intelligent, than their less creative counterparts. He came to the conclusion that so long as a person had a basic, minimal level of intelligence, they could be (at least) as creative as someone with a higher IQ. He saw no link between high IQ and creativity / creative ability.**

Dr. MacKinnon believed that creativity was simply a way of working with your mind, which could be learned and improved. He referred to creative thinkers as people who simply learned how to play with their mind, in a way that allowed them to develop creatively. In fact, he said that the most creative people, were those who were childlike in their playful approach to creativity.

Creativity is the highest form of intelligence

Jeff Dance, 9-13-2008, "Creativity is the Highest Form of Intelligence", Fresh Consulting, https://www.freshconsulting.com/insights/blog/creativity-is-the-highest-form-of-intelligence/

Creativity is the highest form of intelligence because it goes beyond knowledge recall and extends into knowledge creation. Someone intelligent can be very knowledgeable and have excellent information recall (let's say for a standardized test), but creativity and innovation require some novel form of intelligence that is of a higher order.

Studies have shown that highly creative people are highly intelligent but highly intelligent people are not always creative. The fact that highly creative people have a higher correlation with intelligence than vice versa suggests creativity is simply a higher form of intelligence. (See Handbook of Creativity, page 261 for support.)

Beyond the studies, consider the following simple supporting examples:

Regarded, highly intelligent people were also creative

Highly intelligent individuals such as Einstein, Leonardo da Vinci, and Beethoven were highly imaginative, curious, and creative—all creating new concepts and ideas that have value. For example, Einstein's famous "thought experiments" were the key to coming up with the Theory of Relativity. Einstein imagined what it would be like to ride a light beam and from thenceforth sprung his insight and understanding of the nature of light and time. This is not to suggest that Einstein didn't also have a deep understanding of quantum physics and mathematics (measures of his IQ) but his breakthroughs started with his creative imagination. That's probably why he said, "Imagination is more important than knowledge." Ultimately, our high regard for these intelligent individuals comes from their innovations that only their creative intelligence could aspire.

Creativity is the highest level in Maslow's hierarchy of needs

Jeff Dance, 9-13-2008, "Creativity is the Highest Form of Intelligence", Fresh Consulting, https://www.freshconsulting.com/insights/blog/creativity-is-the-highest-form-of-intelligence/

Once we get beyond survival mode, we have the capability to exercise more fully our intellectual powers to create. **Creativity, spontaneity, and problem-solving (often an innovation trigger) are in the uppermost triangle of Maslow's hierarchy of needs. That is because the upper tier called self-actualization represents our need for knowledge where we have enough time to exercise our intelligence and be creative as we strive to improve ourselves**. We can think bigger picture rather than focus on putting food on the table. I submit that this is the primary reason why the pace of change has been so dramatic in the past 100 years. Everything has finally aligned so that we have more time to exercise our highest form of intelligence. Change has been so dramatic in the past 100 years. Everything has finally aligned so that we have more time to exercise our highest form of intelligence.

Creativity drives us to be more open and receptive

Raya, M. Oct 11 2023. "The reciprocal relationship between openness and creativity: from neurobiology to multicultural environments"

National Library of Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10598598/

Openness to culturally diverse individuals and ideas is an important behavioral trait that is increasingly necessary for success in today's interconnected world. By promoting inclusivity, individuals can create more diverse and innovative networks that foster creativity, collaboration, and growth in groups and organizations. Implicit biases can act as barriers to openness and inclusivity and reduce the organization's creative output and effective problem solving; thus, it is necessary for individuals and organizations to identify and overcome such biases. **Research consistently points to a largely shared neurobiology between creativity and trait openness, where common brain networks (i.e., the reward system, DMN, and ECN) facilitate divergent, convergent, and associative thought processes that play an important role in generating new critical perspectives and getting beyond automatic stereotypes to make further creative associations.** While openness to diversity is one aspect of the larger trait of openness, more research with harmonized methodology is needed to directly and explicitly examine the relationship between the two, and to identify factors that may inhibit intercultural openness even in individuals who otherwise show high levels of trait openness. Further research is also needed to clarify the intricate dynamics between openness as a personality trait and the cognitive abilities that comprise it.

Creativity drives innovation

Salami, Nima. 2018. Westcliff University. Human Creativity and Artificial Intelligence (AI): Two Distinct Requirements for Sustainable Competitive Advantage. https://www.westcliff.edu/wp-content/uploads/2019/08/Salami-2018-22.pdf

Although there is a lack of consensus between researchers in defining creativity (Parkhurs, 1999), many of them agree that creativity is directly related to the newness and usefulness of an idea (Mumford, 2003). Batey (2012) adds that any product resulting from creativity should be novel, useful, and original in order to be considered in the framework. **Innovation and invention Schilling (2017) believes that innovation is the practical product of creativity that has been used in devices or processes.** Proctor (2014) has furthered this concept to advocate that innovation needs to create a significant change in the application of the technology as well. He has further explained that there is a distinction between invention and innovation, where the former is "the formulation of a new idea" but the latter "concerns the practical application of new inventions into marketable products or services" (Proctor, 2014, p. 4).

Employers want creative employees

Rachel Wells, 1-28-2024, "70% Of Employers Say Creative Thinking Is Most In-Demand Skill In 2024", Forbes, https://www.forbes.com/sites/rachelwells/2024/01/28/70-of-employers-say-creative-thinking-is-most-in-demand-skill-in-2024/

If you want your career to thrive, or your organization to survive in 2024, tapping into and building your creative thinking skills is an absolute necessity as an aspiring leader. **Approximately 73% of organizations surveyed in the World Economic Forum's Future of Jobs Survey reported that creative thinking skills was a top priority for them when considering talent as we move into the future, agreeing that this skill set is increasing in relevance and importance.**

"More than 70% of companies surveyed consider creative thinking and analytical thinking to be the skills most expected to rise in importance between 2023 and 2027," says Statista, who conducted another study in which they surveyed 11.3 million employees from 803 organizations globally from November 2022 to February 2023. "Indeed, cognitive skills are the skills growing in importance most rapidly due to increasing complexities in the workplace."

Creativity can’t be replaced by AI

Rachel Wells, 1-28-2024, "70% Of Employers Say Creative Thinking Is Most In-Demand Skill In 2024", Forbes, https://www.forbes.com/sites/rachelwells/2024/01/28/70-of-employers-say-creative-thinking-is-most-in-demand-skill-in-2024/

While AI certainly has a multitude of advantages and capabilities, which are set to increase over the next few years while its technology is being fine-tuned, there is one thing that artificial intelligence can never fully replicate or replace: human intelligence. Creative thinking is a unique skill set that boasts the advantages of not only being in-demand, but it cannot be duplicated by machines, making it a greater necessity to develop this skill if you want to future-proof your career.

Intelligence tests are imperfect and prone to errors

"The Problem with IQ Tests", Educational Connections, https://ectutoring.com/problem-with-iq-tests

A study by Adam Hampshire of the Brain and Mind Institute confirmed what many people already believed: IQ tests are poor indicators of intelligence. They developed a test designed to evaluate 12 "pillars of wisdom" in order to obtain a comprehensive understanding of an individual's cognitive skills, from memory to planning. The 12-part test was taken by over 100,000 people and the results proved that there was no single "quotient" that could measure intelligence. They identified at least three factors that were essential to predicting intelligence: "short-term memory; reasoning; and finally, a verbal component."

Additionally, **IQ tests are unable to measure variable aspects of intelligence like emotional and social intelligence. Both of these are crucial factors in assessing an individual's potential for success, but they are not tested in IQ tests. Ultimately, IQ tests only really measure how well an individual takes an IQ test and little more.**

IQ tests have the potential to inaccurately measure an individual's intelligence and cause problems including low confidence, unrealistic expectations, and just a generally flawed understanding of a person's potential.

The moral of the story is this: every person is different, and while an IQ test can be useful for identifying certain strengths and weaknesses, you should be proactive when evaluating your student's learning needs and look beyond their IQ score. Identifying your student's ability level in areas not tested by an IQ test, such as creativity and is essential to maximizing their potential for success.

Innovation is key to improved quality of life

Sang M. Lee & Silvana Trimi. 2016. "Innovation for creating a smart future". University of Nebraska

https://www.elsevier.es/en-revista-journal-innovation-knowledge-376-articulo-innovation-for-creating-smart-future-S2444569X16300154

Innovation has been the main task of humans throughout history (Lee, 2015). **To survive and improve the quality of life, continuous innovation efforts have been imperative. All major revolutionary waves of human history – agricultural, industrial, information, and now convergence – are all about innovation for creating new and better value** (Lee, Olson, & Trimi, 2012). Political leaders exhort the importance of innovation for social justice and a better quality living environment for the citizens. Global executives stress the importance of continuous innovation for new products/services and ventures for customers, yet 94 percent expressed dissatisfaction with their innovation performance (Christiansen, Hall, Dillon & Duncan, 2016). **Managers of non-profit organizations pursue innovation to challenge the social ills of the economic divide, digital divide, and goal divide** (Lee, 2015). The purpose of innovation is much more profound than just creating greater customer value, better competitive advantage of firms, and an environment for better quality of life. **The ultimate goal of innovation should be the creation of a better future.** The "small i" for innovation is for an individual, organization, society, or country. However, the "Large I" should be innovation for creating a smart future.

Intelligence cannot be pinpointed as the driving force for success

David Brooks. June 13 2024. New York Times. "What Happens to Gifted Children."
https://www.nytimes.com/2024/06/13/opinion/gifted-children-intelligence.html

When you get a glimpse of the real lives of gifted people, you see that it's a mistake to separate this thing we call intelligence from all the other aspects of their lives. **A person's intelligence is embedded in and interacting with all that person's other qualities — whether she is self-confident, conscientious, resilient or open to new experiences, whether she has experienced unconditional love, deep friendships, rich intellectual conversations.** Just because some traits are easier to measure doesn't mean we can isolate them and not see everything that goes into this precious and never-to-be-repeated person.

When you glimpse these lives, **you also see the special power of drive.** The people who change the world may be brilliant or not, but they almost all work their rear ends off. As Lubinski and Benbow wrote in one of their papers, "**Arguably the most widely agreed-on finding in the talent development literature is the inordinate amount of time truly outstanding performers give to their craft."**

Negative Evidence

Knowledge, a key part of intelligence, is a prerequisite to ensuring positive creative solutions

Salami, Nima. 2018. Westcliff University. Human Creativity and Artificial Intelligence (AI): Two Distinct Requirements for Sustainable Competitive Advantage. https://www.westcliff.edu/wp-content/uploads/2019/08/Salami-2018-22.pdf

Interestingly, Schilling (2017) has argued that **the effect of knowledge on creativity is double edged, where in extreme situations, individuals' creativity will decrease in cases where the knowledge they possess is either lacking, or is too high. For instance, if an individual has a lot of knowledge in a specific field, he/she could be trapped in his/her paradigms, existing logic, and perceptions, therefore decreasing creativity (Schilling, 2014). Also, if he/she does not have enough knowledge about the subject matter, his/her understanding would not be enough to produce a meaningful result. Therefore, again his/her creative solutions could potentially be worthless** (Proctor, 2014). Therefore, a moderate knowledge of a field is optimum to produce the maximum number of creative solutions for individuals (Schilling, 2017). Proctor (2014) has also suggested that an individual's creativity could be blocked if certain unfavorable conditions such as mindsets, emotions, perceptions, expressions, and cultural influences are present and can block individuals from creativity. By definition, a mindset is an individual's over-sensitized bias for parts of the information, where his/her feelings might exclude some portions of necessary information, which can create a block (Proctor, 2014).

Intelligence contains several domains all of which are powerful forces

Emotional intelligence is key to cultivating healthy interpersonal relationships.

Amalia Petrovici & Tatiana Dobrescu. 2013. University of Bacău. The role of emotional intelligence in building interpersonal communication skills

The evaluation of **emotional intelligence determines us to take into consideration abilities that enrich this register, for example empathy, that is, perceiving the emotions of others.** The literature presents a series of articles and works that point at possible correlations between emotional intelligence and its specific traits, social skills or academic Amalia Petrovici and Tatiana Dobrescu / Procedia - Social and Behavioral Sciences 116 (2014) 1405 – 1410 1409 success (Mayer, Salovey & Caruso, 2004; Brackett, Lopes, Ivcevic, Mayer & Salovey, 2004). Generally, **studies have shown that emotional intelligence relies more on empathy and positive interaction and less on conflict and antagonism in interpersonal relationships** (Brackett, Mayer, Warner, 2004; Lopes, Salovey, Strauss, 2003). On an average, women outrun men in terms of empathy and emotional expressiveness as results from the conducted analysis.

Emotional intelligence is a prerequisite for oneself

Amalia Petrovici & Tatiana Dobrescu. 2013. University of Bacău. The role of emotional intelligence in building interpersonal communication skills

Another definition formulated by Reuven Bar-On characterizes emotional intelligence as a series of noncognitive abilities, competences and skills that influence a person's level of adaptability to the demands and pressures of the environment. According to him, **emotional intelligence may be divided into five categories, respectively: intrapersonal (emotional self-awareness, assertiveness, self-esteem, self-actualization and independence), interpersonal (empathy, interpersonal relationships and social responsibility), adaptability (problem solving, reality testing, flexibility), stress management (stress tolerance, impulse control) and general mood (happiness and optimism)** (Bar-On, 1997).

Intelligence is a highly valued train in people

Eric W. Dolan, "Intelligence and kindness are the most valued traits in romantic partners, study finds", PsyPost - Psychology News, https://www.psypost.org/intelligence-and-kindness-are-the-most-valued-traits-in-romantic-partners-study-finds/

This setup forced participants to prioritize certain traits over others, revealing the relative value they place on each characteristic when resources are limited. For example, with a high budget, participants might feel more liberty to allocate points evenly, showcasing a balanced preference. On the other hand, a low budget scenario would compel them to make tough decisions, highlighting which traits they deem essential in a partner.

Intelligence and kindness emerged as the paramount traits desired by participants, regardless of their sexual orientation or gender. This universal appeal suggests a deep-rooted evolutionary significance, where cognitive capacity and emotional warmth are prized.

Intelligence is a good indicator of positive life outcomes

Psychology Today, "Intelligence," https://www.psychologytoday.com/us/basics/intelligence

IQ—or intelligence quotient—is the standard most widely used to assess general intelligence. IQ tests seek to measures a variety of intellectual skills that include verbal, non-verbal and spatial. Any person from any walk of life can be highly intelligent, and scoring high on one sub-test tends to correlate with high scores in other tests, though this is not always the case. IQ tests compare a person's performance with that of other people who are the same age—what's known as a normative sample.

Research has shown that IQ is generally strongly correlated with positive life outcomes, including health and longevity, job performance, and adult income. It is also protective in ways that are not fully understood: People with high IQs seem to be at an advantage in coping with traumatic events—they are less likely to develop full-blown PTSD and more capable of overcoming it when they do—and may experience less rapid decline during the course of Alzheimer's Disease.

Emotional intelligence allows you to be a productive teammate

Calm Editorial Team, "Here's why emotional intelligence is so important," Calm Blog, https://www.calm.com/blog/why-is-emotional-intelligence-important

Emotional intelligence—also known as EQ—helps you handle emotions, connect with people, make good choices, and stay calm when life gets complicated. Emotional intelligence is one of the factors that allows people to navigate complex social situations with ease or maintain composure under pressure. Research has shown that our success in life is 80% EQ and only 20% IQ. And the best part is that emotional intelligence is a skill you can build.

It's crucial to understand the key components of emotional intelligence so you can build your EQ and reap the benefits.

What is emotional intelligence?

Emotional intelligence is about being smart with feelings — your own and others peoples'. It's understanding why you might be happy one minute and frustrated the next, or why your friend is looking a bit down even though they're saying everything's fine.

Life is all about emotions and how we handle them. And emotional intelligence is what helps you read and understand all the emotional data you're receiving and sending. It helps us work together with our loved ones, colleagues, and wider society in good times and bad. So, learning how to understand emotions is a skill that we can always stand to improve.

Creativity is hard to measure

"Professor talks about the challenges of measuring creativity", No Publication, https://news.uoregon.edu/content/professor-talks-about-challenges-measuring-creativity

Marjorie Taylor, a UO psychologist and Professor Emeritus, recently spoke with Artsy, an art collectors' website, about the approaches psychologists use to quantify the elusive trait

"**When you're talking about creativity, you have to understand you're talking about a broad spectrum of abilities in different domains," she said. "It's hard to measure."**

A common way researchers measure one element of creativity is through the "unusual uses task." Researchers may ask subjects to come up with as many possible uses of a brick or a milk carton as they can. Taylor sometimes uses this test, but she's not a big fan.

"For a lot of studies, creativity gets boiled down to the unusual uses task," she said. "It's very narrow in terms of focusing in on creativity as manipulation of a physical object."

Psychologists tend to focus on creativity in one of four ways. The unusual uses task attempts to measure whether subjects think in a creative way, an aspect known as the cognitive process element.

Taylor prefers testing creativity in children by starting a story and asking them to create an ending. Adults then rate the creativity of the children's responses. This tests a second aspect of creativity, known as the product. It looks at whether a person's one ultimate outcome or solution is creative.

The two other focuses in researching creativity are the personal element, which looks at the traits and nature of a creative individual, and the press, which looks at the context and circumstances in which creativity flourishes.

Intelligence comprises the primary skills necessary for survival

Colom R, Karama S, Jung RE, Haier RJ. Human intelligence and brain networks. Dialogues Clin Neurosci. 2010;12(4):489-501. doi: 10.31887/DCNS.2010.12.4/rcolom. PMID: 21319494; PMCID: PMC3181994.

Reasoning, problem solving, and learning are crucial facets of human intelligence. People can reason about virtually any issue, and many problems may be solved. Simple and highly complex behavioral repertoires can be learned throughout the lifespan. Importantly, there are widespread individual differences in the ability to reason, solve problems, and learn which lead to human differences in the general ability to cope with challenging situations. These differences: (i) become more salient as the cognitive complexity of the situation becomes greater1-3; (ii) are stable over time4; and (iii) are partially mediated by genetic factors.5

Various definitions of intelligence tend to converge around similar notions designed to capture the essence of this psychological factor. Jensen6 notes Carl Bereiter's definition of intelligence: "what you use when you don't know what to do" (p 111). After their extensive survey, Snyderman and Rothman7 underscored reasoning, problem solving, and learning as crucial for intelligence. **The "mainstream science on intelligence" report coordinated by Gottfredson8 highlights reasoning, planning, solving problems, thinking abstractly, comprehending complex ideas, learning quickly, and learning from experience.** The American Psychological Association (APA) report on intelligence acknowledges that "individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought" (p 77). 9

Intelligence influences our personalities

Elizabeth Gilbert. Aug 15 2023. Big Think. "An enormous study links intelligence and personality in surprising ways." https://bigthink.com/neuropsych/study-personality-intelligence-links/

The disorganized and absentminded professor, the moody genius, the bubbly airhead — many stereotypes link certain personality traits to intelligence. Is any of this based in reality? **Stanek and Ones' initial meta-analysis of the compilation found hundreds of reliable relationships between personality and intelligence.** (An interactive visualization is available here on Stanek's website.)

Openness, which refers to the willingness to engage with new ideas and experiences, is the only personality trait with an established history linking it to intelligence. As expected, openness was moderately correlated with general mental ability.

Conscientiousness, a measure of self-regulation and orderliness, correlated positively with intelligence overall. But some facets, including cautiousness and routine seeking, predicted *lower* cognitive abilities.

Extraversion, a measure of sociality and enthusiasm, was only negligibly related to intelligence overall. However, the activity facet more strongly correlated, and (surprisingly) sociability had a small *negative* relationship with some cognitive abilities.

Ones cautions against any causal claims. These are after all just correlations, and it will take time for researchers to fully assess how clusters of personality traits and abilities move together. But one intriguing possibility is that c**ertain personalities are more likely to engage in cognitively enriching activities. This would explain why openness (that is, interest in engaging with new ideas and experiences) and activeness (a facet of extraversion) were positively related to intelligence.**

Intelligence is a key aspect of human capital and leads to higher economic growth

Jay Squalli & Kenneth Wilson. 2014. American University of Sharjah. "Intelligence, Creativity, and Innovation." https://www.sciencedirect.com/science/article/abs/pii/S016028961400097X

Innovation boosts productivity, improves an economy's competitiveness and contributes to building knowledge-based economies and societies. **Intelligence is a key aspect of human capital in any society and human capital plays an important role in the theory of economic growth.** For instance, Mankiw, Romer, and Weil (1992) include a human capital variable in their empirical test of the Solow (1957) model where human capital is measured by secondary school enrollments. Other human capital measures include primary school enrollments (Sala-i-Martin, 1997) and average years of schooling (Barro & Lee, 1993). More recently, Jones and Schneider (2006) use IQ as the human capital measure in their empirical test of the human capital-economic growth hypothesis. Similar to Weede and Kämpf (2002) **they find that intelligence, measured by IQ, has a direct, positive effect on economic growth.**

Given that intelligence is an important element of human capital, **we propose that there is more innovation in societies that have high-IQ populations for three reasons. First, more intelligent people have longer time horizons, a consistent finding in psychology and economics** (Potrafke, 2012, Shamosh and Gray, 2008) which enables them to better appreciate the increasing returns from innovation, entrepreneurship and risk-taking behavior. **Second, in high-IQ population groups, knowledge spillovers from 'social technologies' (Nelson & Sampat, 2001) are likely to be greater. Third, since a key part of innovation involves scientific and engineering discovery and applications that are embodied in intellectual property via patents, we propose that more intelligent people are more able to undertake the considerable intellectual challenges associated with knowledge creation and innovation.** Indeed, there is compelling evidence that intelligence has a direct effect on job performance when a job is inherently less trainable; such as jobs that require creative problem solving, independent decision making and innovative adaptation (Gottfredson, 2004). These are the very skills needed for productive work in an innovation system. The transmission mechanism from intelligence to economic growth, illustrating support for the proposition that innovation has a direct, positive effect on economic growth, is represented in Fig. 1.

Classroom Resources

Common Core Standards for the Big Questions Unit

Topic Research

W.9-10.8 and W.11-12.8: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question.

SL. 9-10.5 and SL.11-12.5: Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

RI.9-10.2 and RI.11-12.2: Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details. Provide an objective summary of the text. This standard applies to the analysis of both primary and secondary sources.

RH.9-10.8 and RH.11-12.8: Assess the extent to which the reasoning and evidence in a text support the author's claim.

Case Writing

W.9-10.1 and W.11-12.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

RI.9-10.1 and RI.11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

RI.9-10.8 and RI.11-12.8: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid, and the evidence is relevant and sufficient.

RH.9-10.8 and RH.11-12.8: Assess the extent to which the reasoning and evidence in a text support the author's claim.

Researching

RI.9-10.2 and RI.11-12.2: Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details.

RH.9-10.1 and RH.11-12.1: Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

W.9-10.8 and W.11-12.8: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question.

Flowing/Student Judging

SL.9-10.3 and SL.11-12.3: Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

SL.9-10.1 and SL.11-12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 and 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

SL.9-10.4 and SL.11-12.4: Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning.

General Public Speaking

SL.9-10.6 and SL.11-12.6: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Practice Rounds

SL.9-10.4 and SL.11-12.4: Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning.

RI.9-10.8 and RI.11-12.8: Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid, and the evidence is relevant and sufficient.

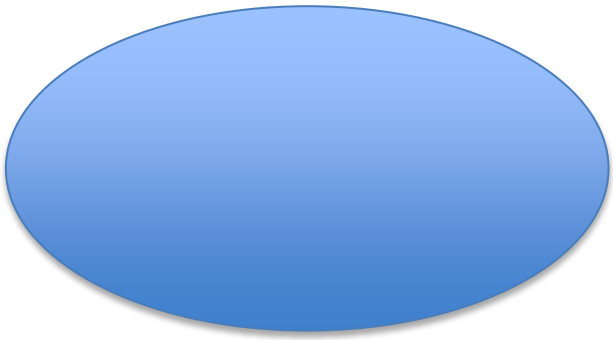
W.9-10.7 and W.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem.

SL.9-10.1 and SL.11-12.1: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 and 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

Creativity Test Sample

Below is a sample question that has been used on previous creativity tests to measure and rank student creativity. This is to be used as a fun way to visualize the topic. It should not be used as an official measure of creativity.

Using the following object as a foundation, draw a picture that tells a story.



IQ Test Sample

Below are sample questions that have been used on previous IQ tests to measure and rank student creativity. This is to be used as a fun way to visualize the topic. It should not be used as an official measure of IQ.

Which number logically follows this series?

7. 9. 5. 11. 4. 15. 12. 7. 13. 8. 11. ___

1) 8
2) 10
3) 11
4) 13

There is a lake on the surface of which water lilies float. The number of lilies doubles daily. If it takes 48 days to completely occupy the entire area of the lake, how many days will it take to occupy the floor of the lake?

1) 47
2) 46
3) 96
4) 108

A car travels at a speed of 40 mph over a certain distance and then returns over the same distance at a speed of 60 mph. What is the average speed for the total journey?

1) 30 mph
2) 40 mph
3) 60 mph
4) 48 mph

What is an ORRERY?

1) a museum
2) a dungeo
3) a clockwork model
4) a golden ornament

Additional Media Guide

Reading Guide

Source Title	Link
“A study of the relationship between intelligence and creativity”	https://scholarworks.uni.edu/cgi/viewcontent.cgi?article=2455&context=etd
“Critical Thinking in a World of Accelerating Change and Complexity”	https://www.socialstudies.org/system/files/publications/articles/se_7207388.pdf
“The link between a high IQ and high creativity”	https://www.creativethinkinghub.com/link-between-high-iq-and-creativity/
“Human Intelligence”	https://www.sciencedirect.com/topics/social-sciences/human-intelligence
“Intelligence Studies: Human Intelligence (HUMINT)”	https://usnwc.libguides.com/c.php?g=494120&p=3381553
“What Is Creativity?”	https://insights.som.yale.edu/insights/what-is-creativity
“What is Creativity? And why is it crucial for success?”	https://www.creativityatwork.com/what-is-creativity/
“What is intelligence?”	https://www.hopkinsmedicine.org/news/articles/2020/10/qa--what-is-intelligence
“What are the nine types of intelligence that should be considered in all school curricula?”	https://www.nordangliaeducation.com/pbis-prague/news/2020/12/09/the-nine-types-of-intelligence
“You Don't Have to Be Smart to Be Creative”	https://www.psychologytoday.com/us/blog/creative-insights/202107/you-dont-have-be-smart-be-creative

Video Guide

Source Title	Link
“Can you measure creativity?”	https://www.youtube.com/watch?v=BD54297VY5U
“Creativity: The science behind the madness | Rainn Wilson, David Eagleman & more | Big Think”	https://www.youtube.com/watch?v=zNHDTvqbUm4
“Do schools kill creativity? | Sir Ken Robinson | TED”	https://www.youtube.com/watch?v=iG9CE55wbtY
“How to Raise Smarter Children | Neil deGrasse Tyson | Goalcast”	https://www.youtube.com/watch?v=tbX6aMfPtEw
“Neil Degrasse Tyson on Creativity”	https://www.youtube.com/watch?v=3Hz1SJYf95o
“The dark history of IQ tests - Stefan C. Dombrowski”	https://www.youtube.com/watch?v=W2bKaw2AJxs
“What is Creativity?”	https://www.youtube.com/watch?v=sMpLtJUte2c
“What is Emotional Intelligence?”	https://www.youtube.com/watch?v=LgUCyWhJf6s
“What Is Intelligence? Where Does it Begin?”	https://www.youtube.com/watch?v=ck4RGeoHFko
“What Makes Games FUN (Psychology in Gaming)”	https://www.youtube.com/watch?v=lkatr_a1OMQ

Big Questions Time Sheet

Speech Name	Time	Purpose
Affirmative Constructive	5 minutes	The affirmative presents their case.
Negative Constructive	5 minutes	The negative presents their case.
Question Segment	3 minutes	The affirmative asks the 1st question and then the debaters trade questions.
Affirmative Rebuttal	4 minutes	The affirmative will provide counter arguments to the negative case.
Negative Rebuttal	4 minutes	The negative will provide counter arguments to the affirmative case.
Question Segment	3 minutes	The affirmative asks the 1st question and then the debaters trade questions.
Affirmative Consolation	3 minutes	The affirmative should reduce the debate to central elements and identify arguments they are winning. They should strengthen these arguments with logical analysis. They should also extend arguments against the negative case.
Negative Consolation	3 minutes	The negative should reduce the debate to central elements and identify arguments they are winning. They should strengthen these arguments with logical analysis. They should also extend arguments against the affirmative case.
Affirmative Rationale	3 minutes	The affirmative will present the voting issues from the debate that they feel will win them the round. .
Negative Rationale	3 minutes	The negative will present the voting issues from the debate that they feel will win them the round.
Prep Time	3 Minutes	Each side will receive 3 minutes of prep time to be used at any time in the debate before they have started speaking.