A ROUTINE TO DEVELOP YOUR IDEAS

by Simon Moss

Introduction

To be awarded a PhD—and to a lesser extent a Masters by Research—your contribution to knowledge is supposed to be original and significant. But nobody really knows what this principle means (for a discussion see Clarke & Lunt, 2014). How original should a thesis be? When is a thesis significant? Regardless of the answer, this criterion does imply that you need to be creative, defined as a blend of originality and significance. This document is designed to help you generate more creative ideas.

|  |  |  |
| --- | --- | --- |
| Activity | Evidence | Examples |
| Consider some problems in your life, or in society, that you would like to solve. Now imagine the world, perhaps decades in the future, after these problems have been solved. | * Feelings of anger, when coupled with hope (e.g., De Dreu, Baas, & Nijstad, 2008), as well as the passion to assist a community (Grant & Berry, 2011) can promote creativity * This contemplation of the future can also enhance measures of creativity (Chiu, 2012; Forster et al., 2004). | * Would like to diminish bullying in schools and workplaces * Want to diminish anxiety in adolescents * Would like to diminish the level of diabetes in Indigenous communities, especially in adolescents |
| To help you uncover significant problems in society, you can also skim “Research Fronts 2020” by Clarivate—primarily to identify the prevailing and emerging topics in your field. |  | To access this report   * visit [this webpage](https://discover.clarivate.com/ResearchFronts2020_EN) * to access the report, complete the form * you can then download the report * or, if you would like to borrow this report, contact simon.moss@cdu.edu.au   Once you access this report, skim the table of contents to ascertain which pages correspond to your field. Then, skim these pages to identify the prevailing and emerging research questions and research topics in your field. |
| Locate websites that summarise some of the most interesting discoveries in research, such as www.reddit.com or sciencedaily.com. Search articles about the problems you would like to solve. Then skim about 50 of these articles as rapidly as possible and transcribe some vague thoughts or insights that you experience during this task. | * When individuals are exposed to a rapid sequence of insights or facts, their creativity improves (Clapham, 2001; see also Pronin, Jacobs, & Wegner, 2008). * After people are exposed to innovative people or perspectives, they solve problems more creativity (Zhou, 2003). | Skim the recent editions of   * ScienceDaily * EurekAlert * Phys.org * Psypost * Medical Daily.   In a file, record embryonic ideas   * focus on marks could amplify bullying * bullying provokes depression perhaps more in competitive classrooms * diabetes is associated with distress of parents in Indigenous communities—so perhaps examine mediators |
| Now repeat this task, but search a more scholarly database, such as Google Scholar. This time rate the relevance of each article you read on a scale of 1 to 100. Then, read the 5 most relevant articles twice. | After reading articles twice, people are more likely to develop a novel perspective about this work. | In a database called PsycInfo, search   * "bullying" * "mental health adolescents" * "diabetes Indigenous |
| After you complete this task, you should identify one to four of these publications you feel you could extend or combine. For example, if one of these publications reports the relationship between two variables, you might want to explore the characteristics or conditions that moderate or affect this relationship. |  | Past research indicates that motivation to excel provokes bullying. So perhaps teachers that reward excellence might amplify this motivation to excel and thus provoke bullying. |
| Attempt to categorize some of your random thoughts into clusters of overlapping ideas.  Do not be too concerned about whether or not these suggestions are feasible yet. Instead, you should adopt a playful, rather than judgmental, mindset | * After people attempt to generate these clusters, their creativity also improves. * Likewise, after people contemplate the categories to which ideas belong, their attention shifts to abstract concepts rather than specific details (Fujita & Han, 2009)—a mindset that fosters many variants of creativity (Forster, Friedman, & Liberman, 2004). * A playful attitude has also been shown to enhance creativity | * If you want to examine whether riding a carousel might improve mental health, you might recognize that a carousel is an activity at an amusement park. You might then consider other activities at an amusement park, such as waiting in a long queue.   Cluster 1   * Focus on effort reduces bullying * Focus on learning reduces bullying * Distressed parents increase likelihood of bullying   Perhaps initiatives that show how effort now can improve life later might diminish bullying |
| Attempt to blend or integrate these clusters to generate even more creative suggestions. | * These blended ideas are often more original and complex (Kao, 2018). |  |
| Occasionally, skim interesting articles in another field or discipline, especially a field or discipline you perceive as interesting. Attempt to integrate some of the insights of this field into your research. | * Exposure to diverse fields can enhance creativity (Kelly & Kneipp, 2009) * Exposure to diverse methods and innovations can also enhance creativity (Kelly & Kneipp, 2009) | * Perhaps consider social network theory to explore features of classrooms that affect levels of bullying. |
| Use Google Translate to read articles from other languages. Exposure to other cultures improves creativity | * Exposure to other languages or cultures tends to enhance creativity (Fee & Gray, 2012; Lee & Kim, 2011; Maddux, Adam, & Galinsky, 2010; Maddux & Galinsky, 2009). | * Read literature on Indigenous communities in Russia—translated into English |
| Consider the opposite of your ideas occasionally. Likewise, identify a limitation of your ideas as well as a few potential solutions to resolve these limitations—but you should not be too concerned about the feasibility or plausibility of these solutions initially | * Attempts to reconcile conflicting perspectives also enhances creativity (Miron-Spektor, Gino, & Argote, 2011). * After people consider the impediments or obstacles to their proposals, their capacity to uncover creative solutions actually improves (Marguc, Forster, & Van Kleef, 2011)—especially if they do not judge their solutions (Litchfield, 2009; Paulus, Kohn, & Arditti, 2011). | * You might, for example, consider the dangers of carousels, for example * If one of your ideas is to explore how horse riding could improve mental health, you might decide that horse riding is hard to organize and a carousel might be better instead |

Furthermore, researchers have uncovered a range of methods that can be applied to improve creativity. The following table outlines these methods.

|  |  |
| --- | --- |
| Activity | Evidence |
| To extend your ideas, you could visit a distant location that is surrounded by nature—environments that tend to promote creative ability. While clenching your left hand, you could describe the feelings and sensations you experience as well as the sights, sounds, or smells that surround your body. | * Distant locations (McCoy & Evans, 2002), natural surroundings (Jia, Hirt, & Kapen, 2009), clenching the left hand (Goldstein, Revivo, Kreitler, & Metuki, 2010), and mindfulness (Berkovich-Ohana, Glicksohn, Dotan Ben-Soussan, & Goldstein, 2017; Agnoli, Vanucci, Pelagatti, & Corazza, 2018) all enhance creativity |
| You could perhaps complete part or all these tasks at night, in a dim room—a room that is lit by a single lamp with a naked light bulb. | * These physical features tend to foster creative insights (Slepian, et al., 2010; Steidle & Werth 2013). |
| While listening to happy music or drinking tea, you could identify two to five strengths or talents you have developed or are developing now—especially strengths or talents your friends or colleagues do not share. You could then decide which of these strengths or talents you most cherish | * Happy music (Ritter & Ferguson, 2017) and drinking tea (Huang, Huang, Choe, Lee, Wang, Wu, & Wang, 2018) enhance creativity. A focus on your unique qualities can also improve creativity. |

# References

Agnoli, S., Vanucci, M., Pelagatti, C., & Corazza, G. E. (2018). Exploring the link between mind wandering, mindfulness, and creativity: A multidimensional approach. Creativity Research Journal, 30(1), 41-53.

Chang, S., Jia, L., Takeuchi, R. Cai, Y. (2014). Do high-commitment work systems affect creativity? A multilevel combinational approach to employee creativity. Journal of Applied Psychology, 99, 665-680. doi: 10.1037/a0035679

Clarke, G., & Lunt, I. (2014). The concept of ‘originality’in the Ph. D: How is it interpreted by examiners? Assessment & Evaluation in Higher Education, 39(7), 803-820.

Dane, E., Baer, M., Pratt, M. G., & Oldham, G. R. (2011). Rational versus intuitive problem solving: How thinking "off the beaten path" can stimulate creativity. Psychology of Aesthetics, Creativity, and the Arts, 5, 3-12.

De Stobbeleir, K. E. M., Ashford, S. J., & Buyens, D. (2011). Self-regulation of creativity at work: The role of feedback-seeking behavior in creative performance. Academy of Management Journal, 54, 811-831.

Forgeard, M. J. C. (2011). Happy people thrive on adversity: Pre-existing mood moderates the effect of emotion inductions on creative thinking. Personality and Individual Differences, 51, 904-909.

Forster, J., & Denzler, M. (2012). Sense creative! The impact of global and local vision, hearing, touching, tasting and smelling on creative and analytic thought. Social Psychological and Personality Science, 3, 108-117. doi:10.1177/1948550611410890

Forster, J., Epstude, K., & Ozelsel, A. (2009). Why love has wings and sex has not: How reminders of love and sex influence creative and analytic thinking. Personality and Social Psychology Bulletin, 35, 1479-1491.

Forster, J., Friedman, R. S., & Liberman, N. (2004). Temporal construal effects on abstract and concrete thinking.

Gaither, S. E., Remedios, J. D., Sanchez, D. T., & Sommers, S. R. (2015). Thinking outside the box: Multiple identity mind-sets affect creative problem solving. Social Psychological and Personality Science, 6, 596-603. doi:10.1177/1948550614568866

George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. Academy of Management Journal, 50, 605-622.

Gino, F., & Wiltermuth, S. S. (2013). Evil genius? How dishonesty can lead to greater creativity. Psychological Science, 25, 973-981. doi: 10.1177/0956797614520714

Goldstein, A., Revivo, K., Kreitler, M., & Metuki, N. (2010). Unilateral muscle contractions enhance creative thinking. Psychonomic Bulletin & Review, 17, 895-899.

Goncalo, J. A., Vincent, L. C., & Krause, V. (2015). The liberating consequences of creative work: How a creative outlet lifts the physical burden of secrecy. Journal of Experimental Social Psychology, 59, 32-39. doi: 10.1016/j.jesp.2015.03.004

Grant, A. M. (2013). Rethinking the extraverted sales ideal: The ambivert advantage. Psychological Science, 24, 1024-1030. doi: 10.1177/0956797612463706

Grant, A. M., & Berry, J. W. (2011). The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. Academy of Management Journal, 54, 73-96.

Grant, A. M., Gino, F., & Hofmann, D. A. (2011). Reversing the extraverted leadership advantage: The role of employee proactivity. Academy of Management Journal, 54, 528-550.

Green, A. E., Cohen, M. S., Kim, J. U., & Gray, J. R. (2012). An explicit cue improves creative analogical reasoning. Intelligence, 40(6), 598-603. doi:10.1016/j.intell.2012.08.005

Holbrook, A., Bourke, S., Lovat, T., & Dally, K. (2004). Qualities and characteristics in the written reports of doctoral thesis examiners. Australian Journal of Educational and Developmental Psychology, 4, 126-145.

Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. Academy of Management Journal, 47, 368-384.

Jia, L., Hirt, E. R., & Karpen, S. C. (2009). Lessons from a Faraway land: The effect of spatial distance on creative cognition. Journal of Experimental Social Psychology, 45, 1127-1131.

Kao, C. (2018). How combining opposite, near-opposite, and irrelevant concepts influence creativity performance. Psychology Of Aesthetics, Creativity, And The Arts, doi:10.1037/aca0000166

Kelly, K. E. (2004). A brief measure of creativity among college students. College Student Journal, 38, 594-596.

Lee, H., & Kim, K. H. (2011). Can speaking more languages enhance your creativity? Relationship between bilingualism and creative potential among Korean American students with multicultural link. Personality and Individual Differences, 50, 1186-1190.

Lichtenfeld, S., Elliot, A. J., Maier, M. A., & Pekrun, R. (2012). Fertile green: Green facilitates creative performance. Personality and Social Psychology Bulletin, 38, 784-797. doi: 10.1177/0146167212436611

Lustenberger, C., Boyle, M. R., Foulser, A. A., Mellin, J. M., & Fr?hlich, F. (2015). Functional role of frontal alpha oscillations in creativity. Cortex. doi: 10.1016/j.cortex.2015.03.012

Maddux, W. W., Adam, H., & Galinsky, A. D. (2010). When in Rome ... Learn why the Romans do what they do: How multicultural learning experiences facilitate creativity. Personality and Social Psychology Bulletin, 36, 731-741.

Madjar, N., Greenberg, E., & Chen, Z. (2011). Factors for radical creativity, incremental creativity, and routine, noncreative performance. Journal of Applied Psychology, 96, 730-743. doi: 10.1037/a0022416

Mayer, J., & Mussweiler, T. (2011). Suspicious spirits, flexible minds: When distrust enhances creativity. Journal of Personality and Social Psychology, 101, 1262-1277. doi: 10.1037/a0024407

Mehta, R., Zhu, R., & Cheema, A. (2012). Is noise always bad? Exploring the effects of ambient noise on creative cognition. Journal of Consumer Research, 39, 784-799. doi:10.1086/665048

Martinsen, O. L. (2011). The creative personality: A synthesis and development of the creative person profile. Creativity Research Journal, 23, 185-202.

Miron-Spektor, E., Efrat-Treister, D., Rafaeli, A., & Schwarz-Cohen, O. (2011). Others' anger makes people work harder not smarter: The effect of observing anger and sarcasm on creative and analytic thinking. Journal of Applied Psychology, 96, 1065-1075.

Miron-Spektor, E., Erez, M., & Naveh, E. (2011). The effect of conformist and attentive-to-detail members on team innovation: Reconciling the innovation paradox. Academy of Management Journal, 54, 740-760.

Miron-Spektor, E., Gino, F., & Argote, L. (2011). Paradoxical frames and creative sparks: Enhancing individual creativity through conflict and integration. Organizational Behavior and Human Decision Processes, 116, 229-240.

Ritter, S. M., & Ferguson, S. (2017). Happy creativity: Listening to happy music facilitates divergent thinking. Plos ONE, 12(9).

Rozenkrantz, L., Mayo, A. E., Ilan, T., Hart, Y., Noy, L., & Alon, U. (2017). Placebo can enhance creativity. Plos ONE, 12(9)

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2009). Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. Academy of Management Journal, 52, 489-503.

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? Journal of Management, 30, 933-958.

Slepian, M. L., & Ambady, N. (2012). Fluid movement and creativity. Journal of Experimental Psychology: General, 141, 625-629. doi: 10.1037/a0027395

Steidle, A., & Werth, L. (2013). Freedom from constraints: Darkness and dim illumination promote creativity. Journal of Environmental Psychology, 35, 67-80. doi: 10.1016/j.jenvp.2013.05.003

Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. American Psychologist, 51, 677-688.

Stoltzfus, G., Nibbelink, B. L., Vredenburg, D., & Thyrum, E. (2011). Gender, gender role, and creativity. Social Behavior and Personality, 39, 425-432.

Swann Jr, W. B., Kwan, V. S. Y., Polzer, J. T., & Milton, L. P. (2003). Fostering group identification and creativity in diverse groups: The role of individuation and self verification. Personality and Social Psychology Bulletin, 29, 1396-1406.

Valacich, J. S., Jung, J. H., & Looney, C. A. (2006). The effects of individual cognitive ability and idea stimulation on idea-generation performance. Group Dynamics: Theory, Research, and Practice, 10, 1-15. doi: 10.1037/1089-2699.10.1.1

van Tilburg, W. A. P., Sedikides, C., & Wildschut, T. (2015). The mnemonic muse: Nostalgia fosters creativity through openness to experience. Journal of Experimental Social Psychology, 59, 1-7. doi: 10.1016/j.jesp.2015.02.002