

Is “Facilitating Anxiety” All in Your Head?

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This paper examines research concerning “facilitating anxiety” that is often cited in the language learning literature and that many language teachers are familiar with. It starts with Yerks and Dobson’s (1908) work and then reviews a number of attempts to create a scale to distinguish between students for whom anxiety has a positive effect (facilitating anxiety) and students for whom anxiety has a negative effect in test taking or second language learning situations. Various problems regarding the conceptualization of anxiety and attempts to measure it are pointed out.

Introduction

The idea that anxiety works as a positive force in learning is widely and deeply held in the educational field. This positive force is referred to as “facilitating anxiety.” In fact, a “law” has evolved from this concept. Known as “the Yerks-Dobson Law” or “the law of the inverted U,” it is regarded as a law of nature in the sense of “a broad generalization expressive of the constant action, or effect, of natural conditions” (Law of Nature, *Wikipedia*). In conversation, we may also refer to this law as a fact of nature. Although I have attempted to discover when Yerks and Dobson’s (1908) concept of facilitating anxiety was first referred to as a law, I have been unable to do so. Not all educators use the terms Yerks-Dobson Law and facilitating anxiety; however, I have noticed strong agreement with the concepts when they are mentioned during lectures and even stronger disagreements with anyone who argues against them. Personally, I am not one who supports them, and in this paper, I will review important research related to these concepts and identify problems that I find in arguments attempting to support them.

Definitions

First, I view the term “facilitating anxiety” to be a contradiction in terms.

“Facilitating” is primarily defined as making something easier and “anxiety” as agitation, worry, and so on. In other words, worry or agitation makes a task easier. It is in fact not that easy to define anxiety because the term anxiety has been used as or confused with fear, dread, phobia, fright, panic, apprehension, and angst. Furthermore, some people use the mental states of doubt, boredom, and conflict when referring to anxiety (Barlow, 2004; Craske, 1999). Now, if facilitating anxiety decreased anxiety, then I believe the term would be used appropriately. Of course, people opposed to my view will point out that “facilitate” also may mean help. However, this is not the main definition in any dictionary I have seen. I like the sound of “facilitating motivation” more, but I will leave that as a topic for another paper.

Yerks-Dobson Law

Most often those supporting facilitating anxiety refer to the Yerks-Dobson Law, also known as the “inverted U.” What many people from both academic and nonacademic groups believe is that as anxiety increases, performance increases until a maximum point is reached. After that point, performance decreases. However, I speculate that not all supporters of facilitating anxiety have read Yerks and Dobson’s 1908 paper. Yerks and Dobson’s work was accomplished with mice that the researchers wanted to enter one small white box and not another that was black, and attempts “to enter the black box resulted in the receipt of a disagreeable *electric shock*” (p. 459, emphasis mine). On the same page, electric shock is referred to as a “stimulus,” which is a term often used by individuals trumpeting facilitating anxiety.

In their book on test anxiety, Cizek and Burg (2005) state, “In 1908, two psychologists, Robert Yerkes and John Dobson made a number of interesting discoveries about the relationship between anxiety (they called it ‘arousal’) and performance” (p. 22). They then go on to describe the inverted U and how it helps performance to a point after which performance decreases. However, contrary to what Cizek and Burg reported, the word “arousal” was never used by Yerks and Dobson in their 1908 paper. They did use the word “stimulus” or a derivative of it over 68 times and the phrase electric shock or electric stimulus over 10 times.

Anxiety and Test-taking

Another important paper for the advocates of facilitating anxiety was written

by Alpert and Haber (1960). The key point of this study was that it included “a description of a new achievement-anxiety scale which has been devised to indicate not only the presence of or absence of anxiety, but whether the anxiety facilitates or debilitates test performance” (p. 207). There are seven statements that were designed to show that a student had “Facilitating Test Anxiety” (see Appendix). The statements can be divided into “symptoms,” “stressors,” and another one that I find something of an anomaly.

Statements two, three, and four refer to nervousness or distraction. Both of these symptoms may be indicators that anxiety is present. However, they are not related to anxiety alone. They can be an indication of fear, excitement, or even happiness. Now of course I am not trying to say that the statement “nervousness while taking a test helps me do better” is an indication that the person is happy. I am trying to make it clear that it may not necessarily only be referring to anxiety. It could be referring to fear, which is not anxiety. Some people may retort that the reaction by the student may be the same. If one takes this view, as I do, then one agrees that the statements can relate to more emotions than just anxiety.

Statements five, six, eight, and nine refer to what could be called stressors. In other words, the situation presented is one that that Alpert and Haber (1960) believe will create anxiety in individuals. I do not agree with that assumption. For example, consider statement five: “In courses in which the total grade is based mainly on one exam, I seem to do better than other people.” People may be happy that they can do better because they have a longer time to study. We need to make an assumption that the test referred to is administered at the end of the course. Also, they may like this style and not feel anxiety but happiness because they prefer to study for one test rather than many. I am able to see other possibilities in the stressor statements. Perhaps the readers of this paper will also, if they read them and think about them a while.

The one statement I find difficult to put into only one of the categories above is statement seven. It is long and convoluted. This statement surely has many possible interpretations. Alpert and Haber took a rather simple stimulus-response approach to anxiety and ignored the complexity of emotions. Nevertheless, it is important to remember that Alpert and Haber stated that the facilitating scale statements were “based on a prototype of the item . . . ‘Anxiety helps me do better during examinations and test’” (p. 213). I do not see that this is the only possibility.

Anxiety and Second Language Learning

A number of books in second language learning also present the facilitating anxiety position, for example, Arnold (1999), Gass and Selineker (2001), and Larsen-Freeman and Long (1991). Along the way, it seems to be forgotten that what Yerks and Dobson did was give electric shocks to mice as a stimulus. I have gone out of my way to call attention to this point because I truly want people to remember the source of the experiments when they read what is called the “Yerks-Dobson Law” or the “inverted U.” No one who cites Yerks and Dobson’s 1908 work mentions that they did three experiments with mice, and one of the tests showed more or less a straight line, not an “inverted U.” Yerks and Dobson explained this by stating that the “irregularity of curve II ... is due doubtless to the small numbers of animals in the experiments. Had we trained 10 *mice* with each strength of stimulus instead of four the curve *probably* would have fallen regularly” (p. 481, emphasis mine).

Kleinmann (1977) developed a version of Alpert and Haber’s test adapted for the ESL classroom. Unfortunately, he did not present all of the statements he used. In fact, he only presents one that is relevant for this paper: “Nervousness while using English helps me do better” (p. 98). If we look at this one statement, we are forced to ask to whom the person is talking, what the environment is, and if this nervousness is caused by anxiety. Designing a test that will only evaluate facilitating anxiety is not easy to do, if at all. Moreover, as Williams (1991) pointed out, in a real life setting the reactions possible are much more complicated than “up” or “down,” and as the University of Iowa Academic Advising Center (2004), points out “test anxiety is something different than heightened concern.”

Problems with the Concept

The dominant concept to support facilitating anxiety directly or indirectly that one finds in the academic literature is the inverted U. However, Staal (2004) points out that “. . . the Yerks-Dobson law and the inverted U seem to have outlived their usefulness as an absolute and unitary theory in human performance” (p. 9). An even stronger view was taken in 1965 by Brown when he suggested that the “law” should be buried in silence. Hancock, Ganey, and Szalma (2002) stated that if “you look over the studies conducted between Yerkes and Dodson in 1908 and Broadhurst in 1957, there is no indication of curvilinear data, much less discussion about its meaning.”

It is far more difficult to find research that supports Yerks and Dobson’s work than research that refutes it.

Why does the concept of facilitating anxiety linger on in the educational system? Having taught for more than twenty-five years, I have observed that the first but not necessarily the most noteworthy reason is to weed out students through stress often related to competition. In addition, I believe that anxiety is a way to control students and classes. Students are confronted with the punishment of poor grades, extra work, or not matriculating to the next level or into the school they want to. The fear resulting from these threats can create anxiety.

Conclusion

To sum up, what I have done is presented issues that plague the basic concept that is generally considered the real truth by many, if not most educators: the myth of “facilitating anxiety.” I have not attempted to include every possible citation in this paper but instead to highlight the most relevant. However, before my critics reach for the switch on their computers to write their rebuttals, I urge them first to read Staal (2004), Teigen (1994), Williams (1991), and Yerks and Dobson (1908).

References

- Alpert. R., & Haber, R. (1960). Anxiety in academic achievement situations. *Journal of Abnormal and Social Psychology*, 61 (2), 207-215.
- Barlow, D. (2004). *Anxiety and Its Disorders, Second Edition, The Nature and Treatment of Anxiety and Panic*. New York: Guilford Press.
- Brown, W. P. (1965). The Yerks-Dobson law repealed. *Psychology Reports*, 17, 663-666.
- Cizek, G. J., & Burg S. S. (2005). *Addressing Test Anxiety in a High-Stakes Environment: Strategies for Classrooms and Schools*. Thousand Oaks, CA: Corwin Press.
- Craske, M. (1999). *Anxiety Disorders: Psychological Approaches to Theory and Treatment*. NY: Basic Books.
- Gass, S. & Selinker, L (2001). *Second Language Acquisition: An Introductory Course*. Mahwah, NJ: Lawrence Erlbaum.
- Hancock, P.A., & Ganey, H.C.N. (2002). From the inverted-U to the extended-U: The

- evolution of a law of psychology. *Journal of Human Performance in Extreme Environments*. 7 (1), 5-12.
- Hancock, P. Ganey, N. & Szalma, J. (2002). Performance under stress: A re-evaluation of a foundational law of psychology. Proceedings of the 23rd Annual Army Science Conference. Orlando, Florida. Retrieved March 1, 2007, from http://www.mit.ucf.edu/Stress/Hancock_Ganey_Szalma_2002.pdf
- Kleinmann, E. (1977). Towards a characterization of the strategies of transfer in second language learning. *Interlanguage Study Bulletin*. 2, 58-145.
- Larsen-Freeman, D., & Long M. H. (1991). *An Introduction to Second Language Acquisition Research*. New York: Longman.
- Law of Nature. *Wikipedia, the free encyclopedia*. Retrieved October 1, 2007, from http://en.wikipedia.org/wiki/Law_of_nature.
- Staal, M. A. (2004). Stress, Cognition, and Human Performance: A Literature Review and Conceptual Framework, Ames Research Center, NASA/TM-2004-212824. Retrieved March 1, 2007, from http://human-factors.arc.nasa.gov/flightcognition/Publications/IH_054_Staal.pdf
- Teigen, K. H. (1994). Yerks-Dobson: A law for all seasons. *Theory & Psychology*, 4 (4), 525-547.
- University of Iowa Academic Advising Center. (2004). Test Anxiety. Retrieved March 1, 2007, from http://www.uiowa.edu/web/advisingcenter/test_anxiety.htm.
- Williams, K. (1991). Anxiety and formal second/foreign language learning. *RELC Journal*, 22 (2), 19-28.
- Yerks, R. M., & Dobson J. D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology*, 18, 459-482.

Appendix

Facilitating Anxiety Scale

1. I work most effectively under pressure as when the task is very important.
2. While I may (or may not) be nervous before taking an exam, once I start. I seem to forget to be nervous.
3. Nervousness while taking a test helps me do better.
4. When I start a test, nothing is able to distract me.
5. In courses in which the total grade is based mainly on one exam, I seem to do

better than other people.

6. I look forward to exams.
7. Although “cramming” under pre-examination tension is not effective for most people, I find if the need arises, I can learn material immediately before an exam, even under considerable pressure, and successfully retain it to use on the exam.
8. I enjoy taking a difficult exam more than an easy one.
9. The more important the exam or test, the better I seem to do.

