The Development of Non-cognitive skills

Within an Outdoor Leadership Program

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Annotated Bibliography

Bobilya, A. J., Kalisch, K. R., & Rock, H. (2006). The wilderness solo: The effect of

intentional design. *Research In Outdoor Education*, 8145-146.

Bobilya, Kalisch and Rock (2006) investigated the benefits of the solo trip within

outdoor education trips. The researchers looked at the how directly designing the trip to

have (a)purpose and framing, (b)instructor visit, (c) individual and group debriefing

opportunities. This research was conducted using a qualitative method of self-reporting to

find empirical data.

The researchers collected data from 85 participants and 21 field instructors.

Participants where answered a questionnaire concerning their solo trip. Instructors

completed a pre and post solo facilitation questionnaire. These questionnaires served as a

self-report on the level of instructor preparation, visit during solo and post solo trip

debriefing. The instructor research focus was conducted to determine the implementation

of the solo trip. The questions were: (a)What was the purpose of the solo? (b)How did you

facilitate students sharing expectations and goals for the solo? (c) What would you change in

preparing students for their solo trip? The researchers found that if rationale for the solo

trip was provided, students shared their goals and expectations, there were intentional

readings and activities tending to help enhance the participants solo trip meaningfulness

and importance. The frequency and length of the instructor visit during the solo benefited

the participant.

This research is important for teachers to have validated findings regarding the positive psychological outcomes previously only anecdotally stated. For outdoor educators knowledge of how to enhance the benefits of a student's solo trip is valuable information.

D'Amato, L., & Krasny, M. E. (2011). Outdoor adventure education: Applying transformative learning theory to understanding instrumental learning and personal growth in environmental education. *Journal Of Environmental Education*, *42*(4), 237-254. doi:10.1080/00958964.2011.581313

D'Amato, Krasny (2011) investigated the qualitative, transformative nature of outdoor-adventure programs. Using a qualitative, interpretivist approach, the researchers tired to express the theory that outdoor education has the ability to create a paradigm of self questioning and that most students emerge from this 'transformed.' The enduring question: how outdoor adventure education participants described the elements that made them personally grow or caused a change in environmental behaviors.

The researchers used three different types of interviews to gather qualitative data from 23 participants of various outdoor-adventure programs. The interview types: (a)retrospective, 1-5 years after finishing program, (b)pre-post interviews, conducted right before and after course and (c)reflective interview, conducted post-program completion. The researchers identified four aspects of outdoor adventure programs that contributed to transformations, behavioral shifts and are also interconnected to transformational learning: (a)living in pristine nature, (b)experiencing a different lifestyle, (c)being part of the course community and (d)dealing with the intensity and challenges of the course. The researchers theory was that outdoor education is a strong proponent of transformational learning as courses general create intense, goal oriented problems that causes participants to engage in

disorienting dilemmas, critical self-reflection, social interactions and competency tests and building of positive self-esteem.

This research is important for teachers as it gives outdoor educators an opportunity to see both short and long term effects of challenging programs. Also, there is documentation that these positive reflections cross over into non-outdoor activities and have enduring impact within the lives of participants.

Daniel, B., Bobilya, A. J., Kalisch, K. R., & McAvoy, L. H. (2014). Autonomous student experiences in outdoor and adventure education. *Journal Of Experiential Education*, *37*(1), 4-17. doi:10.1177/1053825913518892

Daniel, Bobilya, Kalisch, McAvoy (2014) investigated the role and importance of autonomous student experiences (ASE) within an outdoor and adventure program (OAE). The ASE can manifest themselves as solo trips, goal setting, decision making, being a leader for a day and acting as a group facilitator. The goal of the ASE is to increase and develop the student's confidence, use of resources, self-reliance and self-awareness. These ASE activities have recently come under scrutiny as concerns have grown in terms of liability and risk assessment. The authors's research data validated how the ASE builds a student's autonomy.

With various methods of engaging ASE, the authors tried to support their claim that various schools, business and other community organizations use the ASE to empower participants/students to develop character, engage in challenges or conflicts and experience with risk. These tenets agreed with the very core of experiential education, the need for genuine learning, reflections and then application of theoretical practice. The ASE has often been cited as the most important component of the OAE program experiences. The

authors concluded that the ASE component of outdoor education, though higher in risk and in liability remains as one of the most important or influential activities even on self-reports done 25 years after the trips.

This research is important to teachers as it provides a sound argument that autonomous student experiences are important whether big or small. Any time a student can engage in a challenge, increase self-reliance, enhance group development or self-esteem there is a positive character development.

Duckworth, A. L., & Seligman, M. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science (Wiley-Blackwell)*, *16*(12), 939-944. doi:10.1111/j.1467-9280.2005.01641.x

Duckworth and Seligman (2005) investigated the role self-discipline has in predicting grades, attendance, competitive high school acceptance and standardized test scores. This research was attempting find significance for three hypotheses: Self-discipline measured in the fall predicts performance in spring, Self-discipline measured in fall will account for more variance in academics than IQ measured in the fall and self-discipline measured in the fall will predict GPA if the data were controlled for IQ. The researchers used a longitudinal, prospective research design to gather empirical data.

The researchers gathered data from 140 eighth grade students on self-reported self-discipline and teacher parental reports, that were then matched with standardized test scores, attendance, and high school selection. The study was replicated with 164 eight graders and data were collected using a delay of gratification test, study habits self reporting and an IQ test taken as a group. The researchers used the Kirby Monetary Choice

Questionnaire as well as a practical choice between having a dollar now or waiting a week for two dollars. Self-discipline was found to be a predictor, more than IQ, with all of the proposed hypotheses. The researchers also had high test-retest validity with the students, parents and teachers.

This research is valuable for teachers as self-discipline can always be improved upon and taught for every student. Also, having an IQ does not guarantee the success of the student, thus every child could benefit from discipline training, tips, tricks and tools.

Duckworth, A., & Quinn, P. D. (2009). Development and Validation of the Short Grit Scale

(Grit-S). *Journal Of Personality Assessment*, *91*(2), 166-174. doi:

10.1080/00223890802634290

Duckworth and Quinn (2009) completed three different studies in order to develop and validate a Short Grit Scale (Duckworth & Quinn, 2009) that better assessed the 'Grit level' with improved retesting consistency. This shortened survey was then used during three different sample groups to provide correlative evidence for success within the parameters of the three sample groups. This updated survey had 4 fewer items and showed improved psychometric properties. This research was an empirical, prospective, longitudinal study that used the Grit-S test to predict grades and subsequent hours of television watched.

In the Spring of 2006, at a socio-economic diverse magnet school, 45% of the 7th to 11th grade population was selected to participate. The participants filled out a 12 item grit test that was a blended from both the Short and Longer Grit scale. Mean age was 13.94 years, with 59% female, of those participants 58% where White, 20% Black, 16% Asian with 4% being Hispanic. In the Spring of 2007 the test was re-administered with the additional

question of how many hours of T.V. watched. This data were then used with GPA reported at the end of the year. The Grit-S test in 2006 predicted low hours of television watched with higher GPA's. Also, the internal validity proved stable αs = .82 and .84, respectively. (Duckworth & Quinn, 2009)

This article is useful for educators who are trying to measure or predict the success of a group of students. The Short Grit Scale can be used to pinpoint a students current resilience level, this can be then used to bolster a students' own understanding and use of resilience/grit techniques in order to improve grades, happiness or perception of success.

Duckworth, A., Quinn, P., & Seligman, M. (2009). Positive predictors of teacher

effectiveness. *The Journal of Positive Psychology,* Vol.4, No. 6, November 2009, 540-547.

Retrieved from

http://www.sas.upenn.edu/-duckwort/images/Positive%20predictors%20of
%20teacher%20effectiveness.2009.pdf

Duckworth, Quinn and Seligman (2009) investigated various factors which can contribute to teacher effectiveness. The purpose of this research was to determine the effectiveness of novice teachers (Teach for America) placed in lower socio-economic schools. The research question was: Can the use of a optimistic explanatory style, grit and life satisfaction predict teacher effectiveness. This empirical research design was prospective longitudinal.

Duckworth and fellow researchers emailed a random sample of 62% of the Teach For America (TFA) second and first year teachers. 27% of selected teachers chose to participate, these participants all held bachelor's degrees. Seventy-nine percent where female and the

mean age was 24 years old. Half of participants were assigned to teach in elementary schools, 38% taught in secondary schools, and 12% taught in special education programs. Participating TFA teachers completed measures of life satisfaction, grit and explanatory style and teacher performance. Teacher effectiveness rankings, demographic information and school assignments where provided by TFA administrators. Data were collected for: (a)grit using The Short Grit Scale, (b)Life satisfaction: The Satisfaction With Life Scale, and (c)Optimistic explanatory style: The Attributional Style Questionnaire. Consistent with the research hypothesis all three positive traits predicted teacher effectiveness.

This research is important to teachers and administrators as it shows a strong correlation between a teachers' passion, interest and ability to persevere and the success of their students.

Gatzemann, T., Schweizer, K., & Hummel, A. (2008). Effectiveness of sports activities with

an orientation on experiential education, adventure-based learning and outdoor-

education. *Kinesiology*, 40(2), 146-152.

Gatzemann, Schweizer, Hummel (2008) investigated the possible effect of outdoor-education on self-esteem using a group pretest, treatment and then posttest experimental design. The control group validated the findings of positivity within the experimental group, as the control group did not change, but the experimental did.

The researchers selected 67 participants for the experimental group and 48 participants for the control group. Both groups where mixed male and female with the mean age of 22.79 years old. The experimental group then participated in two back to back outdoor education camps. These camps consisted of mountain biking, orienteering, kayak

camping and a triathlon. The survey evaluations where administered directly before and after the camps. The surveys used where: (a)Emotional self-esteem, (b)social self-esteem and (c)self-esteem of one's fitness and body coordination. The researchers found increased self-report of all of the different types of self-esteem. The authors noted that a longitudinal study would need to be used to determine the lasting effects of increased self-esteem.

This research is valuable to outdoor education, sports and/or adventure based teachers. The need for a strong sense of self is paramount for success, perceived grit and increased satisfaction with life. Being able to structure an environment that gives students the ability to develop these 'soft skills' is a needed addition to school curriculum to help with preparing students for the 21 century.

Dweck, C. S., Walton, G. M., & Cohen, G. L. (2011). Academic tenacity. White paper

    prepared for the Gates Foundation. Seattle, WA. Retrieved from URL

    http://www.stanford.edu/-gwalton/home/Publications_files/Dweck,%20Walton,

    %20%26%20Cohen,%202011.pdf

Dweck, Walton and Cohen (2011) created a comprehensive white paper report on the importance of non-cognitive skills, traits and techniques to promote long-term learning in students. The authors site many different studies covering various variables and theoretical questions. The main theoretical point: The possibility of needed educational reform by emphasizing motivational or non-cognitive factors that are crucial in developing long term learners and having students engage in learning.

The authors provided researched and validated sources that support how motivational or non-cognitive skills are a deciding factor when concerned with academic

performance. The author's perspective derived from the old 1990's boosting self-esteem model of over praise. This, disregarded theory created a need for quantifiable research that showed a correlative link between a student's mindset and long term goals balanced against their self-reporting intelligence. The authors have thoroughly shown the positive physiological effects of a student's possession of a 'growth mindset.'

This research is important to teachers as it comprehensively shows that non-cognitive skills are a vast part of the educational needs of all students. In order for long-term learning to occur a student's motivation for learning needs to be addressed.

Klibert, J., Lamis, D. A., Collins, W., Smalley, K., Warren, J. C., Yancey, C., & Winterowd, C. (2014). Resilience Mediates the Relations Between Perfectionism and College Student Distress. *Journal Of Counseling & Development*, 92(1), 75-82. doi:10.1002/j. 1556-6676.2014.00132.x

Kilber, Lamis, Collins, Smalley, Warren, Yancey and Winterowd (2014) investigated the common difficulties of perfectionism and anxiety within undergraduate students. This research outlined three types of perfectionism: self-oriented, other oriented, and social-prescribed perfectionism. Resilience proved to be a successful deterrent to socially prescribed perfectionism. This research used an empirical, cross-sectional design, that the researchers noted prevents causal understanding within the other associated variables. They suggested a longitudinal study would provide longer lasting data.

The pool of undergraduates was self selected by a web site offering credit for research participation. Each student filled out a Brief Symptom Inventory (BSI; Derogatis, 1993) and a Multidimensional Perfectionism Scale (Hewitt & Flett, 2004). These two

surveys quantified a student's level of anxiety along with perfectionism type. Medium age of the student was 20.3 years old. The research found a correlation of self-oriented perfectionism and resilience. Though this finding needs a more pointed hypothesis to fully explain how the previously studied inflexibility of self-orientated perfectionism is overcome. There was a noticeable correlative dip in resilience with social-prescribed perfectionism as these participants engage self blame and other resilience sapping perceptions.

This research is important for teachers to understand the differing types of perfectionism that students engage in and how resilience or the techniques of resilience training would help students over cover a perception of perfectionism that causes depression and anxiety. These perfectionism attitudes are prevalent at the high school level and this study could guide teachers, counselors and parents in preventing some self-defeating attitudes before the higher stakes of college are engaged.

Kutob, R. M., Senf, J. H., Crago, M., & Shisslak, C. M. (2010). Concurrent and longitudinal predictors of self-esteem in elementary and middle school girls. *Journal Of School Health*, *80*(5), 240-248.

Kutob, Senf, Crago and Shisslak (2010) investigated the cause and other influences of self-esteem with a cross-sectional longitudinal study to collect empirical data. High self-esteem has been seen to be closely related to academic, social and future success.

The researchers selected a multiethnic experimental sample of 656 girls in elementary school. The experimental subjects were evaluated every year for four years. The data were collected by using self reporting surveys that questioned: (a)Self-esteem, appearance appraisal, (b)effect of body changes, (c)depression, (d)teasing, (e)school

performance. Also, participants' weight and height was recorded to see if perceived weight changes matched actual weight changes. Researchers found that the most predicative self reporting effect of self-esteem was appearance. Teasing about weight was reported as another predictor of low self-esteem. Academic performance was shown to be a predictor among 6th and 8th grade. With other studies detailing the correlation with self-esteem and future success the researchers concluded that additional studies would need to be performed in order to address the factor of teasing as the largest cause of reported low self-esteem.

This research is important as it allows teachers to see, quantifiably, that bullying or even teasing has a great effect on students' self-esteem. The idea of self worth or esteem is a factor of education and teachers should be aware to confront, amend and cease teasing language within the classroom.

Lundman, B., Strandberg, G., Eisemann, M., Gustafson, Y., & Brulin, C. (2007).

Psychometric properties of the Swedish version of the Resilience Scale. *Scandinavian Journal Of Caring Sciences*, 21(2), 229-237. doi:10.1111/j.1471-6712.2007.00461.x

Lundman, Strandberg, Eisemann, Gustafson and Brulin (2007) investigated a scale of resilience in relationship to age and gender and to also validate the structure of the Swedish version of the Resilience Scale (RS) (Wagnild & Young, 1993). There was a question of the fluidity of resilience and the effect of age on the perspective of resilience. The research was designed for both an empirical prospective experiment and validation data collection.

Since most of the resilience data at the time of this study was completed on children, the research team collected a large, 1729 person, cohort within a large age range from 19 to 103 years old. The participants were selected from a two municipalities and a

large nursing home. The sample group was 1248 women and 471 men. Background research held that gender does not affect resilience. A theoretical link between a RS and the subject's perspective on 'purpose of life,' sense of coherence, mental health and self-transcendence. There was a strong correlation between the RS and age. For each year the RS increased around 13%. The theory how the soft skills of resilience are an equation of time over experience and a perception of successful aging was proposed.

Teachers will find this study important as it quantifies the fluidity of resilience and the long lasting effects of 'being resilient.' If young students are giving the tools and techniques of maintaining a perception of resilience, as they age they will find themselves possibly more adept to successful living, happiness and aging.Shechtman, N., DeBarger, A., Dornsife, C., Rosier, S., & Yarnall, L. U.S. Department of Educaiton, Office of Educational Technology. (2013). Promoting grit, tenacity and perseverance: Critical factors for success in the 21st century. Retrieved from Office of Educational Technology website: http://www.ed.gov/edblogs/technology/2013/02/grit-report-comments/

Mischel, W., & Ayduk, O. (2002). Self-Regulation in a cognitive—affective personality system: Attentional control in the service of the self. *Self & Identity*, *1*(2), 113-120. doi: 10.1080/152988602317319285

Mischel and Ayduk (2002) investigated the introduction of basic mechanisms and dynamics that can aid in the struggle with the delay of gratification. This ability to delay gratification has been studied for three decades using an experimental and longitudinal research design to gather empirical data. The researchers found techniques to take pressing or immediate desires and allow the participants to gain a measure of distance or perspective.

This research paper was based upon the decades long replicated experiential study

concerning the delay of gratification with four -five year olds using a blank room and the promise of another cookie and time. The researchers using this data had proposed a series of techniques and are also discussed the long term effects of early onset delay of gratification among 4 year olds. The techniques of attentional mechanisms were used to prolong the delay of gratifications within the power of willpower. The simple acting of priming the participant with distraction techniques or a directive had a strong impact of the delay of gratification. This formal system when dealing with willpower had proved effective throughout the many replications of the first 1972 study.

This research is valuable to teachers as the delay of gratification is a large predictor of happiness, higher SAT scores, BMI and many other factors of a students' life. Being 30 years old this study is largely cited, but this paper provides some techniques that teachers could use to improve the delaying skills of students.

McCrea, S. M., & Hirt, E. R. (2001). The role of ability judgments in self-handicapping.
Personality And Social Psychology Bulletin, 27(10), 1378-1389. doi:
10.1177/01461672012710013

McCrea and Hirt (2001) investigated the main motivation of students who self-handicap in order to protect the perception of ability within specific areas which also aids in protecting the larger sense of self-esteem. The empirical data were collected using a causal pretest, post-test self reporting research design. The researchers tried to discover the relationship between low performance and self-reporting high skilled students.

The researchers used 158 Introduction to Psychology students. Over three sessions,students where given pre and posttests in order to determine self-handicapping

behaviors, self-esteem, ability ratings, claims of poor preparation, test performance and self-reported stress. As hypothesized those who reported higher self-handicaps tended to do poorer on the performance test and report higher levels of stress. Though participants experienced an impaired test performance, they were adapt at retaining their global self-esteem by blaming their handicaps for their performance score. This skill was found to directly affect the perspective the self-interest of participants to maintain an idea of accomplishment or abilities within one area.

This research is important for teachers so that they combat those who make up grand excuses for fear of failure and loss of positive identity. Students who are praised for a specific skill, intelligence or other attributes will then fear for the loss of that perception. This research shows that teachers should also, promote a students ability to work hard, challenge themselves and engage in learning risks.

Niiya, Y., Crocker, J., & Bartmess, E. N. (2004). From vulnerability to resilience. *Psychological Science (Wiley-Blackwell)*, *15*(12), 801-805. doi:10.1111/j.0956-7976.2004.00759.x

Niiya, Crocker, and Bartmess (2004) investigated the role that specific learning orientations have on the self-esteem of students who attach their self-esteem to academics. These students typically need to use techniques that will help them persist through challenges and failures. The researchers conducted an experimental research to collect empirical data.

The researchers used 128 introductory psychology students, 87 female, 34 male and 7 unknown. Each participant was placed in groups of 7 to 10 and then giving tests to assess self-theories of intelligence. This test determined if the participants believed in a fixed or

malleable intelligence. Participants also completed a 20 scale self-esteem test that tested three factors: performance, social and appearance state self-esteem. Each participant then took a modified question GRE, so participants could not determine if they had succeed or failed. After completing the GRE, participants were randomly assigned either a high (97th percentile) or a low (45th%). The researchers then asked the participants to self-report on their state of self-esteem. The data supported the theory that a positive orientations could buffer self-esteem from failure in a subject or area that the subject deemed important to preserve their self-worth.

This research is important for teachers as it explains, using empirical data, how if a student is deemed intelligent there will a great drop in self-worth if that intelligence has a perceptive threat.

Radel, R., Sarrazin, P., Legrain, P., & Wild, T. (2010). Social contagion of motivation between teacher and student: Analyzing underlying processes. *Journal Of Educational Psychology*, *102*(3), 577-587.

Radel, Sarrazin and Legrain (2010) researched the effect of how teacher's motivational orientation changed the intrinsic motivation of their students. The researchers gathered their empirical data with a causal research design while trying to validate the self-determination theory. Their thesis: To show that exposure to cues about a teacher's motivation can affect students' own interest in the activity independently of teaching activities per se.

The researchers used 91 French high school students who are participating in a physical educational class. They were given a pre-test motivational questionnaire as a

baseline. The students where they then divided into groups and given the same lesson. The researchers told the students that one teacher was very motivated, highly skilled and the other was reluctant and a only volunteer. These instructors followed a script to keep the lesson exactly the same. After the lesson the students were given 10 minutes of free time and then their assessment was administered. This assessment gathered self-reported data on motivation and the perceived motivation of the instructor. The researchers found that there was a direct correlation between what the students learned and how the students reacted to the teacher. There were data to support the idea of how teachers do affect the interest of their students by engaging strategies either controlling or autonomy supportive.

This research in valuable to teachers as it shows empirically how the teacher will affect the student's own motivation to learn and create learning that is self-determined. Anything used to promote the intrinsic motivation of students will aid in their own long term learning goals.

Sheard, M., Golby, J. (2006). The Efficacy of an outdoor adventure education curriculum on selected aspects of positive psychological development. *Journal Of Experiential Education*, 29(2), 187.

Sheard, Golby (2006) investigated the potential psychological effects of an outdoor-adventure based education program on the possible increase of positive psychological development. The researchers where interested in trying to validate the large volume of anecdotal evidence on the ability for outdoor education to improve various self-image areas. This research was an experimental, empirical-pretest, treatment, posttest design.

The researchers pulled 70 participants from a volunteer base of interested students. There was also a 29 student control group, who did not engage in any activity. 17.23 was the mean age for the experimental group. Each of the participants completed a battery of validated survey based questions concerning six positive psychometric traits. The were: (a) mental toughness, (b)hardiness, (c)dispositional optimism, (d)self-esteem, (e)self-efficacy and (f)positive and negative affectivity. The researchers found that their hypothesis was not supported as the experimental group failed to significantly self-report a measured improvement in positive psychological tested areas. Though there was discussion as to why the research did not support the hypothesis.

This research is valuable to teachers as it demonstrates the need for empirical research even with the large presence of anecdotal evidence. Also, this study goes into a great deal of exploration as to why the data failed to support the hypothesis. A value to those teachers looking into the same type of research topics.

Shechtman, N., DeBarger, A., Dornsife, C., Rosier, S., & Yarnall, L. U.S. Department of Educaiton, Office of Educational Technology. (2013). Promoting grit, tenacity and perseverance: Critical factors for success in the 21st century. Retrieved from Office of Educational Technology website: http://www.ed.gov/edblogs/technology/2013/02/grit-report-comments/

Shechtman, DeBarger, Dornsife, Rosier, and Yarnall (2013) complied a brief on a group of non-cognitive factors-grit, tenacity and perseverance that have been a key component to success in the 21st century. The authors proposed that non-cognitive skills are malleable and can always be learned. The authors were seeking to answer: What are grit, tenacity and perseverance? What are the key components of these competencies, what

psychological and contextual factors support and promote them? The research design was a systematic narrative review of the body of research surrounding these topics, plus 25 expert interviews.

The authors carefully constructed the key components of non-cognitive skills, how students can learn them, how teachers can teach the skills and the long term effects of these skills. One of the key theories of teaching the skills of resilience, grit and tenacity, relies on providing students with long term worthy goals that have intrinsic value. Another point of interest was the role of an engaging school that provides a supportive, rigorous environment that then promotes learning. This idea was supported by creation of a student's academic mindset, effortful control, perseverance to accomplish goals and possession of strategies and tactics. The authors presented a comprehensive case for the implementation and importance of non-cognitive skills.

This research is important for teachers as it fully explores and supports the value of teaching to the whole child. It also, provides evidence, strategies and general themes which can be used to promote the development of non-cognitive skills.

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. School *Psychology Quarterly*, 18, 158-76.

Shernoff, Csikszentmihalyi, Schneider and Shernoff (2003) investigated optimal methods in creating highly efficient learning environments. This theory, presented as the flow theory is based upon how well the challenge of the activities match the skills of the

participant. This theoretical paper argued that cultivating an optimal learning experience or flow of learning provides intrinsically based long term learning.

For 25 years the authors have conducted Experience Sampling Method (ESM) asking respondents to carry a beeper. When beeped, at random times, participants responded with a brief questionnaire in which they answered open ended scaled questions gauging their activities, thoughts, and general motivational qualities. The ESM captures snippets of a person's enjoyment as well as cognitive and motivational reflections of their activities. The authors were able to pin point how delicate it is for students to be within the flow or optimal learning mindset. The authors found that classroom experiences that are balanced between low challenge, high skill which creates apathy whereas high challenge, low skill activities can produce anxiety. The authors found that the main factors of: perceptual challenge versus skill, contextual factors (call to action activities versus quizzes, etc.), personal ability level, engagement and the personal interest in the value of educational outcomes.

This research is important for teachers as it can help identify how a student's engagement, anxiety, apathy derives from not having their subjective optimal learning environment needs meet by the lesson, school or teacher. These are all malleable aspects to education and thus could be adjusted, perhaps only in a perfect school, to meet the needs of the specific struggling student.

Seligman, M. P., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive
        education: Positive psychology and classroom interventions. *Oxford Review Of
        Education*, *35*(3), 293-311. doi:10.1080/03054980902934563

Seligman, Ernst, Gillham, Reivich, Loinkins (2009) investigated the role happiness

has on a student's education, long term learning interests and resilience to difficulties. They

used a randomized controlled experimental research design to gather empirical data. The

researchers gathered data on the effectiveness of the Penn Resilience Program (PRP) over

20 years and 17 distinct studies.

The PRP training was administered to over 2,000 children ages 8 to 15. The program

was meant to address the trigger points for stress and issues of normal adolescence. There is

a focus on instilling logical, realistic and flexible thought process about future problems.

The researchers noted that the program effectiveness has a large part to do with the training

and competence of the leader. Compared to the control group PRP trainees self-reported a

reduction in depression symptoms, reduction of hopelessness and is a preventative to

clinical levels of depression and anxiety.

This research is important to teachers as it validates the necessity of educating the

whole child. The data collected assured that a sense of well-being or happiness can effect

learning, depression levels and the ultimate feeling of success of a student. These aspects

are important to focus on as well as academic rigor.

Sibthorp, J. (2011). Experiential education and lifelong learning: Examining optimal

engagement in college students. *Journal Of Experiential Education*, *33*(4), 388-392.

Sibthorp (2011) investigated the possible influence experiential learning has on the

participants interest in long term learning. The research used an Experience Sampling

Method (ESM) to gather empirical data. The ESM asks participants to report at certain

moments to self-report on their positive or negative psychological mood. The researcher's

understanding was that lifelong learners are created by exposure and development of experiential wisdom and optimal engagement. The purpose of the research was to determine how experiential learning creates a lifelong learning directive.

During 2009 the researcher created a survey that allowed participants to self-reflect on their experiences during an experiential learning semester with the National Outdoor Leadership School (NOLS). Each of the 15 participants completed a survey during the three weeks of their course and for one week after. Students completed a dispositional measure of their enjoyment of learning in order to set a baseline and determine any shift towards lifelong learning. The researchers gathered 669 valid responses that detailed the participants categorizing activities with a negative or positive label. The researcher found that students who self-reported a high number of engagements with challenging aspects then reported an increase in optimal engagement experiences. These engagements were then reported to be sources of motivation for participants to engage in self-regulated learning.

This research is important for teachers as is highlights the need for students to be challenged, given autonomy and given opportunities for experiential learning. These experiences with self-regulation of their learning and experiences can lead to character development that will aid in intrinsic life long learners.