

**RELATIONSHIP BETWEEN VICARIOUS EXPERIENCE AND DELINQUENT
BEHAVIOUR MODIFICATION AMONG PUBLIC SECONDARY SCHOOL STUDENTS
IN RONGO SUB-COUNTY, KENYA**

Tom Kennedy Omondi Onyango

japuonj24@yahoo.com

Jaramogi Oginga Odinga University of Science and Technology, Kenya

Abstract: *The purpose of the study was to find out about social cognitive skills as predictors of delinquent behaviour modification among public secondary school students in Kenya with a specific purpose to establish the relationship between vicarious experience and delinquent behaviour modification among secondary school students in Rongo Sub-County. The study adopted a Concurrent Triangulation research design within the Mixed Method approach. From a population of 3,740 students, 10% (374), were sampled for the study with a return rate of 92.3% (344) and 26.9% (7) of the target Deputy Principals and Teacher Counsellors from the 26 schools, making a sample of 7 for both officers. Stratified random sampling was used to cater for the different categories of secondary schools. Purposive sampling was used to sample the one (1) national school in the Sub-County. Quantitative data was collected using questionnaires while an interview schedule was used to collect qualitative data from the seven (7) Deputy Principals and Teacher Counsellors, Focus Group Discussions were used with groups of 6 for each sampled school leading to a total of 42 participants in 7 groups. The study reported that there is statistically significant positive correlation between vicarious experience and delinquent behaviour modification among secondary school students ($n=344$; $r = .207$; $p < .05$). The slope coefficient for student vicarious experience is 0.085 ($B = .085$), suggesting that student behaviour is modified by .085 units for each unit improvement in the level of vicarious experience among the secondary school students.*

Keywords: *delinquent behavior, social cognitive skills, vicarious experience*

Background to the Study

Student conflicts in secondary schools are one of the most common challenges faced in the 21st century in the modern world as observed in the studies carried out in this area. Social cognitive skills refer to a wide group of abilities that allow us to interact, communicate and understand social agents (Alaerts, Nackaerts, Meyns, Swinnen & Wenderoth 2011). Bijari, Zare, Haghdoost, Bazrafshan, Beigzadeh, and Esmaili (2016) state that the components of social cognitive skills include self-control - the student's cognitive ability to control one's emotions and behaviour in the face of temptations and impulses to achieve his or her goals; vicarious experience - knowledge or information about a skill or behaviour that students derive from seeing the performance of others in school, for example, keeping to the school rules and routine; rational attribution - the process by which students logically explain the causes of their behaviour and events, and inhibition - the act of preventing or slowing the activity or occurrence of inappropriate behaviour in school.

In a study by Mather and Goldstein (2013), behaviour modification assumes that observable and measurable behaviours are good targets for change. All behaviour follows a set of consistent rules. Methods can be

developed for defining, observing and measuring behaviours, as well as designing effective interventions. Guidance and counselling are aimed at helping individuals understand themselves and their environment so that they can function effectively in society.

Delinquent behaviour modification is aimed at helping individuals overcome their problems. Delinquent behavioural modification of students in public secondary schools refers to students' change of behaviour from what is inappropriate to that which is appropriate as a result of counselling interventions in school (Mather & Goldstein, 2013). This is expected to be a positive change in behaviour by a delinquent student. The aforementioned components of social cognitive skills should be able to apply in this change to be seen to predict the behaviour modification in the delinquent students.

The problem behaviours have been of great concern that Government of Kenya, (2001) presents the Wangai report which examined the causes and remedies to mass indiscipline and unrest among secondary school students. Aloka and Bujuwoye, (2013) also highlight behaviour problems among Kenyan secondary school students have been on the rise over the years. For example, in the year 2001, some students used petrol to burn a Kyanguli Boys' Secondary school dormitory and some 68 students died in the inferno. Both 2002 and 2005 also witnessed cases of arson in different Kenyan secondary schools by students. In July 2012, over 300 students of two Kenyan secondary schools were reported to have boycotted classes and violently protested their school authorities' decision refusing to shift entertainment sessions from daytime to nighttime. It is argued that problem behaviours are related to parents not spending time with their children. Such parents fail in meeting the socialization needs of their children and hence they develop problem behaviours. Some observations indicate that the role confusion observed among adolescents is linked to parents absconding responsibilities in raising their children (Muindi & Koro, 2008).

Vicarious Experience and Behaviour Modification

Wagler (2011) in an American study investigated the impact of vicarious experiences and field experience classroom characteristics on pre-service science teaching efficacy. The participants were forty-six pre-service elementary teachers enrolled in a field experience based elementary science education course and twenty in-service teachers. A pretest was administered to the pre-service elementary teachers early in the semester and consisted of demographic questions and the Science Teaching Efficacy Belief Instrument B (STEBI-B). A posttest was administered to the pre-service elementary teachers at the end of the semester and consisted of field experience questions and the STEBI-B. The field experience in-service teachers provided personal, professional, and classroom characteristics data in the middle of the semester.

Unique to this study is the finding that enactive mastery experiences did not change the preservice elementary teacher's science teaching efficacy during their field experiences as Bandura's self-efficacy theory proposes (Wagler, 2011). Also unique to this study are the findings that variables of student ethnicity, student socioeconomic status and preservice teacher program placement were significant predictors of the preservice elementary teacher science teaching efficacy during their vicarious experiences. Wagler (2011) notes that even though variables of student ethnicity, student socioeconomic status and preservice teacher program placement negatively impacted preservice science teaching efficacy levels, preservice teachers should be placed in these environments when effective support exists. This support has the potential to reverse the negative declines observed in the preservice elementary teacher's science teaching efficacy scores and better equip the preservice elementary teacher with the techniques needed to meet the diverse needs of their students (Wagler, 2011). This Wagler (2011) study focused on the use of a pre-and post-test instrument, the current study made use of a

personality-type based questionnaire for the students as well as a Focus Group Discussion to confirm or otherwise the results from the questionnaire.

Tangney, Baumeister, and Angie (2008) incorporated a new measure of individual differences in self-control into two large investigations of a broad spectrum of behaviours. Higher scores on self-control correlated with a higher grade point average, better adjustment, less binge eating and alcohol abuse, better relationships and interpersonal skills, secure attachment, and more optimal emotional responses. Tests for curvilinearity failed to indicate any drawbacks of so-called over control, and the positive effects remained after controlling for social desirability. Low self-control is thus a significant risk factor for a broad range of personal and interpersonal problems. In a series of regression analyses, no significant change in R² was associated with squared terms entered following each SCL-90 subscale. These would detect any signs of curvilinearity in the data, beyond the basic linear effect we already reported. The failure of these analyses to yield significant improvements in prediction suggests that self-control is beneficial and adaptive in a linear fashion. There was no evidence that any psychological problems are linked to high self-control. This study relied on regression analyses only for data analysis but it lacked a qualitative aspect in it while the current study used descriptive statistics and Pearson Correlation which combined both quantitative and qualitative data hence more comprehensive findings.

Nwagu, Enebechi and Odo, (2018) determined the students' level of self-control in learning for healthy living. A questionnaire adapted from the self-control subscale of the Self-Directed Learning Readiness (SDLR) Scale developed by Fisher, King, and Tague was used in determining the levels of self-control in learning for healthy living among students in Enugu State College of Education (Technical), Enugu, Nigeria. The study revealed that the student's level of self-control was a little less than the recommended level. A significant difference was found in the male and female students' level of self-control in learning for healthy living with the male students possessing a higher level of self-control. Significant differences also occurred in the students' level of self-control in learning for healthy living when the students were classified based on their courses of study. This reviewed study was on health consequences while the current study was on educational behaviour modification results which would be more helpful to one in an educational environment.

Judistira and Wijaya (2018) investigated the role of self-control and self-adjustment on the academic achievement of junior high school students. There were 96 first-year students of Islamic boarding schools in Tasikmalaya enrolled on this study, 48.96% of them were males and 51.04% females. Data were collected by using The Brief Self-Control Scale, Self-Adjustment Scale, and also the final grade of the school report. Data analysis showed that both self-control and self-adjustment correlate with student academic achievement. For further analysis, multiple regression showed that only self-control could predict academic achievement. Also reported from data analysis that boys and girls are different significantly in academic achievement, self-control, and self-adjustment. The data analysis showed that when both the self-control and self-adjustment were analyzed together, only self-control could predict academic achievement ($\beta = 0.182$; $F = 6.620$; $df = 1$; $p < 0.05$). This reviewed study was on a population of junior high school students while the current one was on senior high school students with results being more relevant to teachers in this level of education rather than from students from a lower level.

A study by Mohammad Sadegh Shirinkam et al., (2016) was conducted on 395 female and male university students of Sardar Jangal University, Rasht, Iran. Instruments comprised the Internet Addiction Test and Self-Control Scale (Tangney, 2008), which were administered by all participants. Findings of regression analysis showed that self-control has significant negative relation with internet addiction ($p < .05$) and male

students gained higher scores in internet addiction than females. Moreover, no significant difference was found among students of different university majors in internet addiction scores. It appears that self-control abilities can reduce the rate of internet addiction in university students. According to the findings, the multiple regression equation of the study is linear, so that variations of the dependent variable (internet addiction) could be predicted by the predictor variable (self-control) significantly ($p < .007$). In addition, coefficient β is negative which indicates an inverse relationship between self-control and internet addiction; an increase in self-control would decrease internet addiction ($p < .002$). Finally, the multiple correlation coefficient (R) is about 32% and the determinant coefficient (R square) is about 10%; which means that self-control can predict 10% of variations of internet addiction in the sample group ($p < .002$). This study focused on university students only while the current study was on a secondary school study population of students as well as service providers and administrators thus making it better in terms of the population under study and the expected bigger group it will apply to.

Simatwa (2007) in a study in Kenya reports that in 1980, recorded cases of schools that experienced these cases of indiscipline were 22 (0.9%). This increased to 187 (7.2%) in 1990. These cases continued to increase unabated to the extent that, in 2001 the Ministry of Education introduced guidelines on safety in schools. The study further notes that in 1998, 26 girls at Bombolulu Girls Secondary School were burnt to death; in 1999, 17 girls at St. Kizito Secondary School were killed and 70 raped; at Nyeri Boys High School, four prefects were burnt to death in their dormitory; and in 2001, 67 boys at Kyanguli High School were burnt to death by their colleagues (Wabala, 2017, p.9).

Still in Kenya, according to the Republic of Kenya report in 1991 and 2001 common indiscipline cases in schools include the following; lateness, chronic absenteeism, truancy, rudeness, insubordination, disrespect, unacceptable verbal expressions of dissatisfaction, abuses, destruction of property, bullying fellow pupils, indecent behaviours like rape and arson (MOEST) (2000/2001). Such happenings have proved that there is a problem with our secondary school system. In the second term of 2016, there were a lot of unexplained school fires that affected more than 200 schools and cost millions of shillings in losses with more than 100 students facing charges in court for the same (Ombati, 2016). These were blamed on a lot of issues but the underlying reason is students' behaviour. It points to some very wrong trend in our educational institutions which needs to be stemmed before we miss out on our future leaders who are currently our secondary school students.

In Kisii County of Kenya, students' behavioural problems have led to the destruction of property, interference with learning programs, psychological, and academic achievement have been reported in several schools since 2011 (CDE's Office Kisii County, 2014). Educational programs require that students live in an environment where they are peaceful and are instructed with the right knowledge, skills values, and attitudes (Abiero, 2009). However, in the past, student behaviour problems have been observed to be on the rise leading to challenges for stakeholders in the education sector (Kangare, 2008). The student behaviour problems have resulted in death, destruction of property, deformities, truancy among students, and interference with the learning and teaching in schools (Ruto, 2009).

Chemutai, Onkware, and Iteyo (2020) observe that Kenya has faced several incidents of student conflicts in Secondary schools mainly attributed to the cases of indiscipline and conflicts among students in the schools.

Another study by Chemutai, Onkware, and Iteyo (2020) on the nature of student unrest in secondary schools in Kericho County, Kenya observed that despite the establishment of the student council in secondary schools in 2013 to act as a bridge between the administration and the students, the expectation that the cases of conflicts

in secondary schools would reduce never happened. In 2015 alone, incidences of student unrest in schools including Kericho Boys High, Londiani Boys High School, Keben Secondary School, and Kiptewit Secondary School have shown that student unrest is a serious issue that has to be addressed in the county (Chemutai, Onkware, & Iteyo, 2020)

In Rongo Sub-County, several students are currently undergoing counselling to address delinquent behaviour issues. The delinquent behaviour issues range from stealing, aggression, fighting, sneaking out of school, substance abuse, lateness in attending lessons, lesson missing, use of abusive language on others, disrespect to teachers, and many others. Table 1 shows a sample of data on the number of students undergoing behaviour modification by school Teacher Counsellors.

Table 1: *Data on the number of students undergoing guidance and counselling for delinquent issues in Rongo Sub-County public secondary schools*

Year	Number of cases of delinquency documented	Number of schools
2014	1,040	13
2015	1,600	16
2016	1,450	21
2017	1,704	17
2018	1,871	18
Total	7,665	85

Source: Rongo Sub-County Secondary schools, 2019

From Table 1, the numbers of students being attended to can be observed to be increasing in Rongo Sub County as the years pass by.

Table 2: *Data the on number of students undergoing guidance and counselling for delinquent issues in Migori County public secondary schools*

Sub-County/Year	2014	2015	2016	2017	2018
Kuria East	830	941	822	1,040	1,051
Kuria West	756	832	782	972	1,043
Nyatike	947	1,035	927	1,078	1,139
Suna East	812	954	886	997	1,046
Suna West	934	1,040	998	1,089	1,308
Uriri	902	1,046	950	1,070	1,670
Awendo	867	944	879	980	1,004
Total	6,048	6,792	6,244	7,226	7,315

Source: Migori County Director of Education’s Office, Migori, 2019

Table 2 further gives the general picture of the number of students benefitting from the services of the guidance and counselling departments in Migori County. These seem to be on the increase as evident in the figures registered in the successive years. The numbers in the other sub-counties are, however, lower than those of Rongo Sub-County making it of greatest concern in Migori County.

Statement of the Problem

The government of Kenya expects secondary schools to use more guidance and counselling to instill discipline in students rather than corporal punishment to enforce the same (Wambu & Teresa, 2015). Schools play an important role in the socialization process of young people as they learn to regulate their conduct, respect others, manage their time responsibly, and thus become responsible citizens (Saldana, 2013). The different disciplining styles that can be employed by the teachers are corrective, supportive, and preventive. Skills such as self-control, vicarious experience, rational attribution, and inhibition can be buttressed by counselling sessions. However, there is an increase in the number of delinquent behaviour in among students in secondary schools of Rongo Sub County and most of the affected students should be undergoing guidance and counselling services in their schools (Personal communications, 2018). Despite delinquent students being expected to undergo guidance and counselling services, indiscipline problem persists. Therefore, this study sought to find out the predictor nature of social cognitive skills acquired from guidance and counselling services in succeeding with behaviour modification among delinquent students in public secondary schools.

Research Objective

The purpose of the study was to research social cognitive skills as predictors of delinquent behaviour modification among students in public secondary schools in Kenya with a specific objective to establish the relationship between vicarious experience and delinquent behaviour modification among public secondary school students in Rongo Sub-County.

Research Hypothesis

The study made use of null hypothesis;

H0₁: There is no statistically significant relationship between vicarious experience and delinquent behaviour modification among public secondary school students in Rongo Sub-County.

Research Methodology

Kothari (2013) describes research methods as all those methods or techniques that are used for the conduction of research. Research methodology, on the other hand, is a way to systematically solve the research problem. This study made use of the mixed-method design. This was because it wanted to look at both quantitative and qualitative aspects of the study. Walliman (2011) says when the subject combines more than one aspect of human behaviour then it can be advisable to combine two types of research methods. The study aimed to measure and determine the relationships between the variables. The study used a mixed-method design which utilized both qualitative and quantitative paradigms. Tashakkori and Creswell (2014) and other proponents of mixed methods argue that the design encompasses more than simply combining qualitative and quantitative methods but, rather, reflects a new 'third way' epistemological paradigm that occupies the conceptual space between positivism and interpretivism.

Bless and Higson-Smith (in De Vos et al., 2005) explain that correlational research is often conducted to detect the existence of a relationship between two variables, and allows for an estimation of the type and strength of the non-causal relationship.

Thus, the best way to determine relationships in research is using statistical correlations. It is possible to obtain the data needed for statistical correlations by means of a quantitative approach to research. This method enabled the researcher to make follow-ups on the student's behaviour and hence compare this with the data from their

filled in questionnaires and the interview schedules. The present study used questionnaires for the Teacher Counsellors and students, while structured interviews were used for the Deputy Principals and Teacher Counsellors. Questionnaires were preferred for this study because it is a means of supplying the researcher with quantifiable data that are readily available for statistical analyses.

Behaviour Modification Questionnaire for Students

This tool has characteristics of behaviour that could be seen to need successful modification (Section VI – P. 230). This helped with measuring how much these are in the students who have undergone guidance and counselling. It had both positive and negative reinforcement items. There were behavioural tendencies that students responded to. These were rated using the scale of Strongly Disagree (SD), Disagree (D), Unsure (U), Agree (A) and Strongly Agree (SA).

Data Collection, Reliability and Validity

Semi-structured questionnaire was used to collect data. Kothari and Garg (2014) describe the questionnaire as the heart of a survey operation. The study employed Cronbach's alpha coefficient analysis (with the aid of Statistical Package for Social Sciences (SPSS) software) to examine the internal consistency of the measures since it is the most reliable test of inter-item consistency reliability for Likert scaled or rating scaled measures (Whitley, 2002; Robinson, 2009). All the sub-scales attained the recommended level of internal consistency given that they were within the acceptable range of 0.70 to 0.9 as recommended by Tavakol and Dennick (2011) and George and Mallery (2011). In addition, with an overall scale reliability of 0.796 and a standard deviation of 0.067, the instrument was of an acceptable reliability standard. To ascertain content validity, literature search was conducted to ensure that the items in the questionnaire were within the domain of the study concepts as defined by the researcher (Kimberlin & Winterstein, 2008; Drost, 2011). This was further corroborated by a panel of experts (Cooper and Schindler, 2008; Drost, 2011; Aila & Ombok, 2015). Dev Von, Block, Moyle-Wright, Ernst Hayden and Lazzara (2007), as cited by Abong'o (2015), suggest that content validity may be undertaken by seven or more experts. Construct validity, on the other hand, was ascertained using Pearson's r with the aid of SPSS version 21.0. Based on the significant values obtained by the Sig. (2-tailed) $< .05$, it is evident that all items in each sub-scale significantly correlated with their sub-scale totals, except for item 4 in the Forecasting Future Requirements and Action Planning subscale. The item was excluded from the final analysis of the data given that it had failed the validity test. Generally, the questionnaire items were of adequate validity since they significantly correlated with their total sub-scales.

Findings on the Relationship between Vicarious Experience and Delinquent Behaviour Modification among Secondary School Students

The research objective was to examine the relationship between the level of vicarious experience and delinquent behaviour modification among secondary school students in Rongo Sub-County. To investigate this objective, first, descriptive statistics were used to investigate the views of the sampled students on their vicarious experience, followed by the use of inferential statistics to test the hypothesis on the relationship between vicarious experience and delinquent behaviour modification.

Level of Vicarious Experience among Secondary School Students

From the qualitative results, there were themes such as help-seeking, role modelling, and copying others' styles.

Theme 1: Help-Seeking

Teacher Counsellors' reported that these students, after undergoing counselling, are found to be close to the well-behaved students making them have positive behaviour changes. These are students who have virtues that have been extolled in the course of the counselling and, because of psycho-education, these students take to the behaviour of the well-behaved.

There was this student who was always found in problems and always seeing the deputy principal on issues indiscipline. This boy was referred to the guidance and counselling department and after the counselling sessions, this student was seen to be with students who are positively perceived in school. This was probably as a result of the psychoeducation on positive and negative peer influence on one's behaviour." (T. C. 5).

The teacher counsellor further noted that this kind of relationship leads to these delinquent students' modification of their behaviour by unlearning their initial behaviour and learning better behaviours.

Alumni of schools have been useful in this area of vicarious experience. It was reported that there were former delinquent students who come back and help with counselling issues. Mertens, Dekovic, Van Londen and Reitz (2020) in a study in the Netherlands confirm the advantage of using peers to affect adolescents' academic, emotional and social development. A study in India further gives the importance of former students as positive influencers of students' behaviour by reporting that the more students see themselves similar to the successful model you provide, the more confident they will be about doing well on the new task (Behlol, Akbar & Hukamdad, 2019). Mitchel (2021) in a sub-Sahara Africa research, gives a report that supports the positive influence of peer modelling by saying that it is a key and neglected aspect of education quality in the region.

These students give their tales of delinquency in school to the delinquent who then learns from their negative life experiences and decides to modify their behaviour.

A student who was always combative and ready to fight even teachers was eventually able to get good grades. We later brought him to talk to our students about his personal experience when he was a student at our school. He told the students that he is sure that what he did in school, which was negative, may have denied him better grades. This talk to students who were undergoing counselling had a positive impact as some students changed their ways." (T. C. 3).

A deputy principal reported that there was a negative influence of the town dwellers on the delinquent students who are mostly rural in terms of social background as follows: "*Girls who have been referred for counselling do try to be like their counterparts from urban set-ups. This is more so for those students coming from purely rural set-ups.*" (D. P. 2).

From the interview results, it can be concluded that there is a great deal of learning from others that the delinquent students do engage in as they interact with those from environments that are different from theirs.

Students therefore can be used to effect positive changes in their fellows who are not behaving as expected by society.

Equally, 142 (41.3%) and 99 (28.8%) of the students who participated in the study strongly agreed and agreed, respectively, that when they see their class teachers successfully solve a problem, they always picture themselves solving the problem in the same way. This reflected above moderate vicarious experience, among many of the students, rated at 3.91 (SD=1.28) on a scale of 1 to 5. Only 67 (19.5%) of student respondents disagreed that seeing the class teacher successfully solve a problem, makes them picture themselves as able to solve the problem in the same way. In agreement, Gautreaux (2005) found that teaching middle school students, who had poor or nonexistent repertoires for acquiring new operands by observation, resulted in significantly improved observational repertoires as well as collateral behaviour changes in listening skills. Similarly, Tsiouri and Greer (2003) showed that rapid imitation of observable motor response under conditions in which non-vocal children were under the deprivation of specific and generalized reinforcers led to the emission of first instances of vocal verbal behaviour. On the contrary, Greer and Singer (2004) recently reported that translucent plastic discs, which did not act to reinforce children's performance or learning, acquired reinforcement effects after children observed peers receive the discs and the target children were denied access to the discs. The report showed that neutral stimuli, plastic discs about the size of quarters, were conditioned as generalized reinforcers for performance tasks and reinforcers for acquiring new operants as a result of an observation process.

Theme 2: Role modelling

Role modelling is a powerful teaching tool for passing on the knowledge, skills and values of the medical profession, but its net effect on the behaviour of students is often negative rather than positive (Cruess & Cruess, 2008). A teacher counsellor noted that these delinquent students imitate the behaviours of their role models in school. One had it that the delinquent students imitate the good behaviour of their role models and become better behaved.

A deputy principal said that these delinquent students would find themselves modelling after students that are looked upon in school. They model their lives after these in the belief that they will be like them. These could be students' with either bad or good behaviours depending on these delinquent students' orientation after counselling sessions.

In the process of counselling, our students are exposed to the expected behaviours and those who have what could be good in terms of behaviour are pointed out to these students. After their sessions, it is realized that some of them choose to ape role models in school. (D. P. 6).

From this response, it is evident that role models in school can help with instilling discipline in our learners as the delinquents who have undergone guidance and counselling services report their influence on their behaviour once exposed to them. Several focus group participants talked of having to behave as their role models. She says that having had counselling sessions where she saw herself in a different light, it was necessary to align herself with a girl who is said to be well-behaved to help her change and maintain this.

I discovered that I could be a better-behaved student if I chose to be close to one who is leading an exemplary life in school. This was after going to the guidance and counselling office where I was talked with for some time. (Student, 3, FGD 1C).

This response shows a student who has decided to be around another who is better in terms of behaviour and this could have the impact of leading this student to a modified behaviour. From the qualitative results above interviews, it can be concluded that the delinquent students can be able to discover what their behaviour does to them and have informed change in behaviour. The students may also look up to their role models and even surpass them in terms of being good people in society.

By the same token, the results of the survey established that students learn a lot from their peers. This was revealed by the fact that close to three-quarters of 251 (73.0%) of the students who participated in the study generally agreed that when they see other children do well in behaviour they get motivated to behave better. In fact, the mean rating of 3.91 with a standard deviation of 1.28 further confirms that there is a fairly strong positive peer influence on student behaviour. Only 59 (17.1%) of them said their behaviour is not influenced by other children's behaviour. Also, 102 (29.7%) and 106 (30.8%) of the students who took part in the study strongly agreed and agreed, respectively, that when they see another student solve a behaviour problem, they always see themselves solving the problem the same way. This was a sign of positive vicarious experience from peers, as further indicated by a mean rating of 3.59 (SD=1.29). Only 71 (20.7%) of respondents denied being influenced by their peers' behaviour insinuating that seeing other students solve a behaviour problem, does not in any way make them able to solve the same problem.

In agreement, Greer and Keohane (2005), showed the acquisition of novel and untaught uses that were induced by observation or indirect contact with the contingencies. Some, or most, incidences of novel and generative language that were previously attributed to innate capacities alone may be a result of both direct and indirect contact with contingencies. On the contrary, Singer-Dudek, Greer and Schmelzkopf's (2008) study showed that the neutral stimuli (strings) did not function to reinforce two participants' responding to a performance task or learning three new skills that were not previously in their repertoires.

Theme 3: Copying others' styles

This has mainly to do with the students with low self-esteem and therefore rely on those they see around them. The most copied style of behaviour is that of the town dwellers who are deemed better in behaviour and style.

There have been students who are guided and counselled after which they turn to the well-behaved in order to be able to be helped to be good in school. These are girls who fear that they may not be able to turn into good students without the support of the well-behaved being close to them. (T. C. 5).

This teacher counselling is saying that the well-behaved students are an asset to the delinquent students in terms of behaviour modification as they support their actions and reactions after guidance and counselling. There is also the copying of the high performing students who are rewarded. There are those delinquent students who attend and clear their counselling sessions but still go ahead to copy bad behaviour from other

students such as stealing and even perfecting them making teachers get to know about the badly behaved fourth formers wrongly guiding them.

A deputy principal said that the delinquent students copy the behaviour of the disciplined and hence be disciplined. Another deputy principal noted that there are both positive and negative influences as they have both peers within and without the school. This deputy principal further mentioned that the out of school peers did influence the delinquent students negatively while those in school were mostly the positive influencers.

I had a girl go for counselling. After this, the student was always seen in the company of some of our well-behaved students. We did not mind as we believed that the student was under the 'care' of these other students and so was on the path to better behaviour. (D. P. 1).

The deputy principal here is giving an example of a student who was guided and counselled after which she now preferred the presence of the well-behaved students and keeping the badly behaved away from them.

From the qualitative results above, it can be concluded that a delinquent student who gets into the company of well-behaved students can have a modification of behaviour. This would be a result of trying to fit in with the group. They also get into this to keep off a repeat of the negative consequences that those who are in the delinquent group could be experiencing.

On vicarious experience from self, the results of the survey show that 158 (45.9%) and 87 (25.3%) of the students who participated in the study strongly agreed and agreed respectively, that they imagine themselves working through challenging behaviour problems successfully which consequently contributes to their behaviour modification. This was mirrored by a mean rating of 3.90 (SD=1.33) on the vicarious experience from self on a scale of 1 to 5. However, 55 (15.9%) of the sampled students deny imagining themselves working through challenging behaviour problems successfully and 44 (12.8%) of them remained neutral on the matter. In agreement, Farzad et al., (2010) revealed that observation of a model with verbal teaching improves learning of the handstand skill, while observation without verbal description does not affect the learning of the skills. On the contrary, Greer and Singer-Dudek, (2008) study showed that discs and strings did not reinforce correct responses in the performance tasks, but the food items did; nor did the discs and strings reinforce correct responses in learning new repertoires.

The results here mirror the earlier research by Zimmermann and Kitsantas (2002) who noted that college students observe a mastery or a coping model displaying writing revision skills and engage in emulation: the control group did not observe a model. Students who observed and emulated the coping model obtained higher self-regulatory writing skills than the other two groups. It, therefore, brings in the importance of modelling. In the case of delinquent students, guidance and counselling enabled them to identify role models who made them modify their behaviour. Cruess and Cruess (2008) indicate that the net effect of role modelling is negative. The results of this study have a positive effect on the students' delinquent behaviour modification after going through guidance and counselling.

Wagler (2011) in his American study reports that enactive mastery experiences did not change the preservice elementary teacher's science teaching efficacy during their field experiences as Bandura's self-efficacy theory proposes. The current study has brought out the predictability of social cognitive factors of delinquent

behaviour modification in secondary school students. The variable, in this case, was the vicarious experience of students who had undergone counselling sessions.

Also unique to this study are the findings that variables of student ethnicity, student socioeconomic status and preservice teacher program placement were significant predictors of the preservice elementary teacher's science teaching efficacy during their vicarious experiences (Wagler, 2011). This finding is similar to the current study's finding on the effectiveness of guidance and counselling services in helping delinquent students in modifying their behaviour. Another study, carried out by Kariuki, Kathuku, Owiti, Auka and Kasiri (2016) found a strong relationship between vicarious experience and delinquent behaviour modification, the Kariuki et al., (2016) study found a correlation between vicarious trauma and intrusive recollections of the trauma. This lends credence to the finding from the current study and confirms the strong relationship between vicarious experience and delinquent behaviour modification among students who have been guided and counselled hence a strong case for this service in our public secondary schools.

It also emerged from the results of the survey that some students compete with themselves in behaving well, which is an indication of a positive vicarious experience from self. For instance, 221 (64.2%) of the students who took part in the survey generally agreed that they compete with themselves in behaving well. However, 59 (17.2%) of the students were not sure whether they compete themselves and only 64 (18.6%) of them disagreed. This was further indicated by a mean rating of 3.81 (SD=1.36), showing that there is a moderate positive vicarious experience from self among most of the secondary school students in Rongo Sub-County. In agreement, Weeks (1992) states, the observation of the model leads to improvement in cognitive display and assists the learner to control and regulate motor performance; so the cognitive conception is an important factor for the learner to acquire the complexities of motor performance. On the contrary, Shea *et al.*, (2000) showed observation of the video game had no significant effect on the game improvement, but practical training lead to significant improvement in game performance.

In investigating the views of the students on their vicarious experience, a Likert scaled itemized questionnaire was used. The items of the questionnaire were indicators of vicarious experience among secondary school students. The vicarious experience was investigated using three areas; adult, peers and self-vicarious experience. The responses were scored using a five-point scale ranging from strongly disagree (1) to strongly agree (5). The scores were averaged to measure the respondents' attitudes on their level of vicarious experience. Their views were summarized in percentage frequencies as shown in Table 3.

Table3: Views on Vicarious Experience

Items	SD	D	N	A	SA	Mean	STD
Experience from Adults							
Seeing adults behave well pushes me to behave better	17 (4.9%)	14 (4.1%)	31 (9.0%)	64 (18.6%)	218 (63.4%)	4.31	1.11
When I see my class teacher successfully solve a problem, I can picture myself solving the problem in the same way	42 (12.2%)	25 (7.3%)	36 (10.5%)	99 (28.8%)	142 (41.3%)	3.80	1.37
Experience from Peers							

Seeing children do better in behaviour pushes me to do better	29 (8.4%)	30 (8.7%)	34 (9.9%)	101 (29.4%)	150 (43.6%)	3.91	1.28
When I see another student solve a behaviour problem, I can see myself solving the problem the same way	37 (10.8%)	34 (9.9%)	65 (18.9%)	106 (30.8%)	102 (29.7%)	3.59	1.30
Experience from Self							
I imagine myself working through challenging behaviour problems successfully	38 (11.0%)	17 (4.9%)	44 (12.8%)	87 (25.3%)	158 (45.9%)	3.90	1.33
I compete with myself in behaving well	36 (10.5%)	28 (8.1%)	59 (17.2%)	65 (18.9%)	156 (45.3%)	3.81	1.36
Mean average level of vicarious experience						3.88	1.29

Key: 5- Strongly agree, 4- Agree, 3-Undecided, 2- Disagree, 1- Strongly disagree and STD-Standard deviation.

Source: Survey data (2019)

On vicarious experience, the results of the survey reveal that many of the secondary school students in Rongo Sub-County exhibit a fairly strong level of vicarious experience (mean=3.88; SD=1.29). This implies that many of the students derive their knowledge, skill or behaviour from seeing the performance of others in their schools. For instance, at a mean rating of 4.31 (SD=1.11), most of the students who were sampled for the survey insinuated that they behave well because they see the same in adults. More than four out of every five 282 (82.0%) of the students surveyed agreed that seeing adults behave well pushes them to behave better, only 31 (9.0%) of them remained undecided and some 31 (9.0%) of them disagreed. This finding agreed with Stolfi (2005) who found that an intervention we termed a ‘‘yoked peer contingency’’ also resulted in preschoolers acquiring repertoires of learning new operants from observation On the contrary, Pereira-Delgado (2005) found that young children with disability diagnoses who could not learn new operants from observation, learned to do so following an intervention that taught them to monitor the accuracy of their peers when the peers were taught new operants. Similarly, Davies-Lackey's (2004) study reported that children who could not learn from observation before in pre-intervention probes learned the correct response from observing their peers in post-intervention probes.

Hypothesis Testing

H01: *There is no statistically significant relationship between vicarious experience and delinquent behaviour modification among secondary school students in Rongo Sub-County.*

To test the null hypothesis, a Pearson Product Moment Correlation Coefficient was computed with scores on students’ vicarious experience as an independent variable and behaviour modification as the dependent variable. The scores of the independent variable (vicarious experience) were computed from frequencies of responses by computing mean responses per respondent. Mean response across a set of questions of Likert scale responses in each item was computed to create a continuous variable, within an open interval of 1 to 5, which is suitable for the use of Pearson correlation and regression analysis, as explained by Johnson and Creech (1983) as well as Sullivan and Artino (2013). This was done after reversing the negatively worded statements,

where high scale ratings implied high perceived students' vicarious experience. Correspondingly, behaviour modification was computed similarly from the student responses on its indicators.

A significant level (p-value) was set at .05, where, if the p-value is less than 0.05, the null hypothesis would be rejected and the conclusion reached that a significant difference exists. However, if the p-value is greater than 0.05, it would be concluded that a significant difference does not exist. Table 4 shows the SPSS output correlation analysis results.

Table 4: *Relationship between Vicarious Experience and Delinquent Behaviour Modification*

	Vicarious Experience	Behaviour Modification
Vicarious Experience	1	.207**
	Sig. (2-tailed)	.000
	N	344
Behaviour Modification	.207**	1
	Sig. (2-tailed)	.000
	N	344

** . Correlation is significant at the 0.01 level (2-tailed).

From Table 4, it is evident that there is a statistically significant positive correlation between vicarious experience and delinquent behaviour modification among secondary school students (n=344; r = .207; p<.05). Since the p-value = 0.000 which is far less than 0.05 was established, the null hypothesis was rejected. Consequently, it was concluded that there is a statistically significant positive relationship between vicarious experience and delinquent behaviour modification among secondary school students in Rongo Sub-County, with a high-level vicarious experience and linked to better delinquent behaviour modification among secondary school students. On the contrary, Sidaway and Hand (1993) showed that observation of the model has no significant effect on the acquisition of this skill.

However, to estimate the level of influence of student vicarious experience on delinquent behaviour modification among secondary school students, a coefficient of determination was computed using regression analysis and the result is shown in Table 5.

Table 5: *Model Summary on Regression Analysis of Vicarious Experience on Delinquent Behaviour among Secondary School Students*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.207 ^a	.043	.040	.29906

a. Predictors: (Constant), Vicarious Experience

Table 5 has a model summary indicating that students' level of vicarious experience accounted for 4.0% (Adjusted R² =.040) of the variation in their delinquent behaviour modification. This finding indicates that 4% of the variability in behaviour modification among secondary school students is due to differences in their level

of vicarious experience. It is fairly a small influence, however, it is significant. Table 6 shows the coefficients values of the regression model of the influence of vicarious experience on delinquent behaviour modification.

Table 6: *Coefficient's Influence of Vicarious Experience on Delinquent Behaviour Modification among Guided and Counselling Secondary School Students*

Model	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
(Constant)	2.848	.086		33.260	.000	2.680	3.017
1 Vicarious Experience	.085	.022	.207	3.918	.000	.042	.127

a. Dependent Variable: delinquent Behaviour Modification

$$Y = \alpha + \beta x + \varepsilon$$

$$\text{Delinquent Behaviour Modification} = 2.8483 + .085x + \text{error term.}$$

From Table 6 model, the slope coefficient for student vicarious experience is 0.085 (B=.085), suggesting that student behaviour is modified by .085 units for each one unit improvement in the level of vicarious experience among the secondary school students. Likewise, an improvement in vicarious experience by one standard deviation results in an improvement of delinquent behaviour modification by .207 standard deviations, as indicated by a standardized beta coefficient of .207.

Summary

The research objective was to examine the relationship between the level of vicarious experience and delinquent behaviour modification among students in public secondary schools in Rongo Sub-County. The findings on this objective were that vicarious experience is important in delinquent behaviour modification in secondary schools. In the case of delinquent students, guidance and counselling enabled them to identify role models who made them modify their delinquent behaviour.

The current study has brought out the predictability of social cognitive factors of delinquent behaviour modification among students in public secondary schools. The variable, in this case, was the vicarious experience of students who had undergone counselling sessions. There is credence to the finding from the current study and confirms the strong relationship between vicarious experience and delinquent behaviour modification among students who have been guidance and counselling hence a strong case for this service in our public secondary schools.

There is a statistically significant positive relationship between vicarious experience and delinquent behaviour modification among secondary school students. The slope coefficient for student vicarious experience is 0.085 (B=.085), suggesting that student behaviour is modified by .085 units for each unit improvement in the level of vicarious experience among the secondary school students. Likewise, an improvement in vicarious experience by one standard deviation results in an improvement of delinquent behaviour modification by .207 standard deviations, as indicated by a standardized beta coefficient of .207.

References

- Abong'o E. B. (2015). *The role of strategic fit on performance of public universities in Western Kenya*. [Unpublished Doctor of Philosophy Thesis]. Maseno University, Kenya. Retrieved from <https://repository.maseno.ac.ke/handle/123456789/994>.
- Aart F.; Terrie, E. M.; Christian, E. G.; Steglich, J. K.; Dijkstra Z. H. & Wilma, A. M. V. (2015). *The Role of Self-Control and Early Adolescents' Friendships in the Development of Externalizing Behaviour: The SNARE Study*. *J Youth Adolescence* DOI 10.1007/s10964-015-0287-z
- Achi, J. N. & Eremie, M. (2018). *Behaviour Modification Techniques in Secondary Schools in Imo State, Nigeria: The Roles of the School Teacher Counsellors*. *International Journal of Innovative Social & Science Education Research* 6(1):1-8.
- Alaerts K., Nackaerts E., Meyns P., Swinnen S. P., Wenderoth N. (2011). *Action and emotion recognition from point light displays: an investigation of gender differences*. *PLoS ONE* 6:e20989. 10.1371/journal.pone.0020989.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Bandura, A. (1977), "Social Learning Theory", New York, General Learning Press.
- Behlol, M. G., Akbar, R. A. & Hukamdad (2019). *Investigating Secondary School Effectiveness: Peer-Teacher Relationship and Pedagogical Practices* *Bulletin of Education and Research* April 2019, Vol. 41, No. 1 pp. 43 - 55
- Berg, B. L. (2004). *Qualitative Research Methods for the Social Sciences*. Boston: Pearson Education, Inc.
- Bijari, B. B.; Zare, M.; Haghdooost, A.; Bazrafshan, A.; Beigzadeh A. & Esmaili M. (2016) *Factors associated with students' perceptions of role modelling*, *International Journal of Medical Education* 7:333-339 DOI: 10.5116/ijme.57eb.cca2 Accessed 11/03/2021.
- Chemutai, B., Onkware, K. & Iteyo, C. (2020). *Nature of Student Unrest in Secondary Schools in Kericho County Kenya* *The International Journal of Social Sciences and Humanities Invention* ISSN: 2349-203 vol. 7, Issue 11, November 2020, 7(11): 6293- 6307, 2020 DOI:10.18535/ijsshi/v7i11.04.
- Cooper, D. R. & Schindler, P. S. (2011). *Business Research Methods (11th. Ed.)*. New York: McGraw Hill
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th.ed.)*. Thousand Oaks, CA: Sage.
- Cruess, S. R. & Cruess. R. L. (2008). *Role modelling – making the most of a powerful teaching strategy* <https://www.bmj.com/content/336/7646/718> Accessed 20/02/2020).
- Davies-Lackey, A. J. (2004). *Yoked contingencies and the acquisition of observational learning repertoires*. Unpublished dissertation, Columbia University
- De Vos A.S., Strydom, H., Fouché C.B. & Delport C.S.L. (2005). *Research at the grass roots for the social sciences and human service professions. (3rd.ed.)*. Pretoria: JL Van Schaik Publishers.

- Farzad Maleki1, Parvaneh Shafie Nia1, Mehdi Zarghami1, Abdoljalil Neisi1 (2010). *The Comparison of Different Types of Observational Training on Motor Learning of Gymnastic Handstand*. *Journal of Human Kinetics* volume 26, 13-19.
- Gautreaux, G. G. (2005). *The effects of monitoring training on the acquisition of an observational learning repertoire under peer tutoring conditions, generalization and collateral effects*. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 66(5-A), 1713.
- Greer, R. D., & Keohane, D. (2004). *A real science and technology of teaching*. In J. Moran & R. Malott (Eds.), *Evidence-based educational practices* (pp. 23– 46). New York: Elsevier/Academic Press.
- Greer, R. D., & Keohane, D. (2005). *The evolution of verbal behaviour in children*. *Behavioural Development*, 1, 31–48.
- Greer, R. D., & Singer, J. (2004). *A new type of observational learning*. *International Journal of Psychology* 41(6):486-499
- Greer, R. D., & Singer-Dudek, J. (2008). *The emergence of conditioned reinforcement from observation*. *Journal of the experimental analysis of behaviour*, 89(1), 15–29. <https://doi.org/10.1901/jeab.2008.89-15>.
- Kangare, W. (2008). *Sexual violence in Kenya*. Nairobi, Nairobi publishers.
- Kariuki, N. S.; Aloka, P. J. O.; Kinai, T.; Gatumu, H. N. & Ndeke, F. N. (2014). *Relationship between Adolescents' Perceptions of Their Parents' Behaviours and Youths' Non- Illegal and Minor- Illegal Delinquency in Nairobi Secondary Schools, Kenya*. Doi:10.5901/mjss.2014.v5n7p390ISSN 2039-2117 (online) ISSN 2039-9340 (print) *Mediterranean Journal of Social Sciences MCSER Publishing, Rome-Italy* Vol 5 No 7 May 2014
- Kariuki M. W., Kathuku D. M., Owiti F., Auka J. & Kariri J. (2016). *Evaluation of the Severity of Vicarious Trauma among Students at the Kenya Medical Training College, Nairobi Campus, Kenya September, 2016* Vol. 5 Issue 10 ISSN 2278 – 0211 (Online) www.ijird.com.
- Kothari, C. R. (2013). *Research Methodology: Methods and Techniques*, Mumbai: New Age International Publishers.
- Kothari, C. R. (2013). *Research Methodology: Methods and Techniques* (2nd. Ed.), New Delhi; New Age International Publishers.
- Mallery, B. F. (2011). *Time to give up the dogmas of attribution: An alternative theory of behaviour explanation*. In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology*. *Advances in experimental social psychology*, Vol. 44 (p. 297–352). Academic Press. <https://doi.org/10.1016/B978-0-12-385522-0.00006-8>
- Mather, N. & Goldstein, S. (2001). *Behaviour modification in the classroom*, <http://www.ldonline.org/article/6030>/accessed on 22/02/2020
- Mather, N. & Goldstein, S. (2013). *Learning Disabilities and Challenging Behaviours: A Guide to Intervention and Classroom Management*. Baltimore: Paul H. Brookes Publishing.

- Mertens, E. C. A., Dekovic, M., Van Londen, M. & Reitz, E. (2020). *The Role of Classmates' Modeling and Reinforcement in Adolescents' Perceived Classroom Peer Context*. *Journal of Youth and Adolescence*, 2020 Oct 3. Doi: 10.1007/s10964-020-01325-8
- Migori County Education Office (2019). *Secondary Schools' Data*, Migori town.
- Ministry of Education Science and Technology (MOEST) (2000/2001). *Report On Causes, Effects, and Remedies of Indiscipline in Secondary Schools in Central Province*. Nairobi: Government Printers, 5-22.
- Mitchel, R. (2021). *Peer support and education quality in sub-Saharan Africa: a critical interpretive synthesis of school-based research*. ResearchGate, June 2021.
- Nwagu, E. N.; Enebechi, J. C. & Odo, A. N. (2018). *Self-Control in Learning for Healthy Living Among Students in a Nigerian College of Education*. SAGE Open. <https://doi.org/10.1177/2158244018793679>. <https://doi.org/10.1179/oe.1997.3.3.210>
- Pereira Delgado J.A. (2005). *Effects of peer monitoring on the acquisition of observational learning (Doctoral dissertation, Columbia University, 2005)*. *Dissertation Abstracts International*. 2005; 66: 1712A. [Proquest AAT 3174775].
- Republic of Kenya (2001). *Report of the Task Force on Students' Discipline and Unrest in Secondary Schools*. Nairobi, Kenya: Jomo Kenyatta Foundation.
- Rongo Sub-County Office (2019). *Secondary Schools' Data*, Sub-County Office, Rongo town.
- Ruto, J.S. (2009). *Sexual abuse of school age children: Evidence from Kenya*: CICE Hiroshima University. *Journal of International cooperation in Education*, vol. 12. No. 1(2009) pp. 177-192.
- Saldana, J. (2013). *Power and Conformity in Today's Schools*, *International Journal of Humanities and Social Science* Vol. 3 No. 1; January 2013 228 Street La Verne, CA 91750, USA Accessed 11/03/2021.
- Shea CH, Wright DL, Wulf G. & Whitacre C. (2000). *Physical and observational practice affords unique learning opportunities*. *J. Motor Behaviour*, 2000. 32, PP: 27-36
- Sidaway B. Hand M.J. (1993). *Frequency of modeling effects on the acquisition and retention of a motor skill*. *Res. Q. Exercise Sport*, 64, PP: 122-125
- Singer-Dudek, J., Greer, R. D., & Schmelzkopf, J. (2008). *The effects of an observational intervention on the acquisition of reinforcing properties of a previously neutral stimulus*. *Journal of Early and Intensive Behaviour Intervention*, 5(1), 57-74. <http://dx.doi.org/10.1037/h0100410>.
- Stolfi, L. (2005). *The effects of yoked contingencies on the acquisition of observational learning by preschoolers. (Doctoral Dissertation, 2005, Columbia University)*. Abstract from: UMI Proquest Digital Dissertations [on-line]. *Dissertations Abstracts Item*: AAT 3174899.
- Shirinkam M. S., Shahsavarani A. M., Toroghi L. M., Mahmoodabadi M., Mohammadi A. & Sattari K. (2016). *Internet addiction antecedents: Self-control as a predictor*. *International Journal of Medical Research & Health Sciences*, 2016, 5, 5(S):143-151

- Simatwa, E. M. W. (2007). Management of Student Discipline in Secondary Schools in Bungoma District, Kenya. Unpublished Doctor of Philosophy Thesis in Educational Administration, Maseno University.*
- Tangney, J. P.; Baumeister, R.F. & Angie L. B. (2008). High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success. J Pers, 72(2):271-324.*
- Tsiouri, I., & Greer, R. D. (2003). Inducing vocal verbal behaviour through rapid motor imitation training in young children with language delays. Journal of Behavioural Education, 12, 185–206.*
- Wabala, D. (2017, September 9). Kyanguli tragedy and lessons learned. The Standard, 9.*
- Wagler, R. (2011). The Impact of Vicarious Experiences and Field Experience Classroom Characteristics on Preservice Elementary Science Teaching Efficacy The University of Texas at El Paso Electronic Journal of Science Education Vol. 15, No. 2 (2011)*
- Walliman, N. (2011), Research Methods: The Basics, New York: Routledge*
- Wambu, G. W. & Teresa A. F. (2015). School Guidance and Counselling in Kenya: Historical Development, Current Status and Future Prospects, Journal of Education and Practice ISSN 2222-1725 (Online) Vol. 6, No. 11, 2015.*
- Weeks D L. (1992). A comparison of modeling modalities in the observational learning of an externally paced skill. Res Q Exercise Sport, 1992. 63, 373-380.*
- Zimmerman, B. J. & Kitsantas, A. (2002). Acquiring writing revision and self-regulatory skill through observation and emulation. Journal of Educational Psychology, 94, 660–668.*