The Effects of Cassady and Justin's Functional Model for Emotional Information Processing on Improving Social Emotional Competence among Students with Learning Disabilities

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Abstract

Many students with learning disabilities have impaired emotional regulation, which is increasingly being recognized as a core feature of learning disabilities. The functional model of emotional information processing is supposed to be a useful tool to use when observing, explaining, and anticipating a human being while responding to emotional scenarios. It is a promising model for supporting the social emotional competence of students with learning disabilities. While research into this model is still in its infancy, it has borrowed much of its theoretical base from Crick and Dodge's SIP model and from Mayer and Salovey's EI capability. It is useful for improving the social emotional competence of students with learning disabilities.

This study explores whether the Emotional Information Processing Model Intervention (EIP) has positive effects on social emotional competence in Students with learning disabilities. 12 students who suffer from learning disabilities in the primary stage were selected, they were diagnosed using selection criteria for learning disabilities and they were suffering from social emotional problems. The effects of training using the Cassady and Justin functional emotional information processing model on the social emotional competence of students with learning disabilities were evaluated using the Mann-Whitney U test, Wilcoxon's site rating test, and Z Value. The results of this study indicated the effectiveness of the emotional information processing (EIP) intervention model used in increasing the social emotional competence of students with learning disabilities.

Keywords: Emotional information processing (EIP) model, Social emotional competency, Students with learning disabilities.
The effect of cassady and Justin’s functional model for emotional info.

**Introduction**

All students are unique, each with an individual talent and ability to join information storage and retention (Sousa, 2011). A universal concept present in almost all models from student learning is the level of each student's ability to process information (Bender, 2007). Accounting for individual learning ability in education is essential in exam how to test Students learn. It adopts the concept of differentiated education, as examined by Tomlinson (2014). On the basis that each student is unique in his educational requirements, and therefore should to be instructed in the manner that best meets their individual needs.

People with disabilities and their parents, Individualized Education Plans (IEPs), provide a less restrictive environment for learning. The Environmental Health Agency has also made provisions for federal funding to achieve the goals of the new policy (Osborne & Russo, 2014). This legislation has been updated and revised to include more specific information on how to ensure that the needs of special education students in the country (Osborne & Russo, 2014).

The definition of a learning disability (LD) makes room for the importance of using a learning disability status as a factor in understanding student achievement. Bender (2008) defined a learning disability as “a condition that results in difficulties in acquiring knowledge and skills to the level expected of those of the same age, especially when not associated with a physical disability” (p. 18). Although there are significant differences in the types of learning disabilities classified by federal legislation, researchers have found that students classified with learning disabilities collectively have lower test performance and GPAs than those without learning disabilities, even when the conveniences of the IEP are in place (Hampton & Mason, 2003).

One of the most common manifestations of learning difficulties is the difficulty of transforming abstract knowledge into applied knowledge (Bender, 2007). Abstract transformation is an important factor in STEM education, as many concepts are incredibly abstract when presented without context (Stone, 2011).

Peer incompatibility in early school age may increase a child's subsequent risk of maladaptation in a number of different areas (such as social skills, relationships, and self-esteem), even for those individuals who no longer
meet criteria for behavioral disorders in adolescence and adulthood. (De Wolf, Byrne & Bowden, 2000).

Salovey and Meyer (1990) released the first publication examining the construct identified as emotional intelligence. The structure was soon incorporated into the professional and scientific lexicon, resulting in the simultaneous development of solid and rigorous psychological research and a body of acclaimed writing explaining how one could "get more out of it". Over the past two decades, a wealth of work has accumulated that explores the impact of emotional intelligence on adaptation and success in life, the conditions under which one can develop emotional intelligence, and the nature of emotional intelligence as a psychological construct (Cassady and Justin, 2008).

**Social emotional competence in students with learning disabilities**

Socio-emotional competence is the ability to interact with others, to monitor and control cognitive processes, and to regulate one's emotions and behavior. It also includes getting students motivated, working toward goals, solving problems, and communicating effectively. These abilities aroused the interest of educators, researchers, and policy makers who recognized important goals of education which include enhancing students' ability to learn, and producing healthy individuals. Who have self-control, empathy, social skills and morals. Students with these traits may be socially and emotionally balanced and academically successful in the classroom. (Weisberg, Dorlac, Domitrovic, & Golota, 2015).

Studies show that social and emotional competence contributes to human development across domains: cognitive, physical, and communication (Weissberg, Durlak, Domitrovich, & Gullotta, 2015). These domains do not exist in separation, but rather develop together throughout the life cycle. For example, language acquisition is firmly anchored within the foundation of various other skills: such as hearing, the ability to distinguish between sounds, and the ability to pay attention and participate in social interaction. Just as they enhance cognitive, emotional and social abilities and work together to create stronger academic and health outcomes (CASEL, 2015). In childhood, social, emotional, mental, physical, and moral skills are generally assumed to be the basis of all competencies and learning (Lokatari, Matsuoka, Papademetriou, Nani, & Gramticopoulos, 2019).

Therefore, having skills in all these areas enables students to learn, develop self-esteem, self-control, empathy, social skills and morals. Studies have
shown that these skills are reinforcing factors associated with the development of individual competencies; Deficits in this area of job performance are associated with poor academic competencies and outcomes (O'Connell, Boat, & Warner, 2009; Jones, Greenberg, & Crowley, 2015; Loukatari et al. 2019).

It is widely accepted that students with learning disabilities have deficits in many areas of social functioning (Barkley et al., 1988). The inappropriate behaviors and poor social skills that characterize many students with learning disabilities are usually met with negative reactions by others in their environment (Campbell, 1990; Hubbard & Newcomb, 1991).

It is estimated that more than 50% of students with learning disabilities have significant problems in social relations with other students (Pelham and Bender, 1982). The personal behavior of students with learning disabilities is often described as more impulsive, intrusive, excessive, disorganized, attractive, aggressive, intense and emotional. This behavior disrupts the smooth, continuous flow of social interactions, reciprocity, and cooperation that may shape students' daily lives with others (Whalen & Henker, 1992).

Thus, this study focuses on socio-emotional competence due to empirical evidence, which has shown that competence of individuals is critical for social and emotional adjustment, healthy development and coping with the negative effects of exposure to adversity and violence (Weisberg, Dorlac, Domitrovic, & Golota., 2015; Bashir, 2013). Most of the students involved in violence around the world are victims due to the lack of social and emotional competencies.

Cassady and Justin’s Functional Model for Emotional Information Processing

Cassady and Justin (2008, p. 28) hypothesize that “We believe that the emotional information processing (EIP) model may be a useful tool for monitoring, explaining, and predicting human agency in response to emotional scenarios. We present our design of the EIP model as a framework for further research and application.” As shown in Figure 1, we suggest that the performance improvement plan (EIP) includes 5 steps that are largely consistent with Crick and Dodge's SIP model: coding, signal interpretation, target expression, and selection Response, prediction, and implementation.
Figure 1. Emotional Information Processing Model (Cassady & Justinm2008, P.43)

Step 1: Encoding

The first step (Encoding) involves paying attention to internal and external cues related to the emotional event facing the individual. During this coding process, individuals must attend, perceive, interpret, and categorize information gathered from social cues, environmental conditions, and personal beliefs related to the setting. This step includes the first branch of the emotional intelligence model of Mayer and Salovey's ability, in which
individuals perceive feelings. In this step, the individual learns about the feelings that have an internal location and examines them as well as information collected from others with whom they interact. These individuals are highly emotionally intelligent Master this ability to interpret emotional data presented both internally and externally. Strong skills in coding personal emotional messages are essential to effectively identifying our emotional state, which can be used to activate appropriate coping strategies later in the processing cycle. Similarly, accuracy in reading external indicators of others' emotional states or tendencies provide us with the ability to accurately categorize the intentions, needs, and desires of those around us, and reduce biased interpretations of situational factors (Cassady & Justin, 2008).

Step 2: Cue Interpretation

This second step in the model is an extension of the initial coding process. That is, once the information from the social and internal systems is interested and perceived, the individual must interpret the meaning of those signals. This step is highly effective in the emotional integration and sub-comprehension of the Mayer and Salovey's ability model. As they explain, this includes triggering the cognitive actions involved in processing the emotional event, interpreting and understanding the signals in the coding step, and considering the implications of the emotional information processed. People with high emotional intelligence have a strong representation of emotional knowledge or have a detailed and detailed repository of tacit knowledge that can guide the interpretation of practical
situations, and this knowledge repository includes social norms, past personal experiences, cultural norms, and knowledge of personal emotional conditions. Pointing to an imperfect knowledge base will lead to misinterpretation of social or internal cues, wrong attribution of intentions by others, or inaccurate categorization of emotional states (e.g., confusing anxiety with anger) (Cassady & Justin, 2008).

**Step 3: Goal Articulation**

Once the individual interprets the social and personal cues in the emotional event, goal expression occurs - again relying on a two-way relationship with the knowledge base. Goals orient the individual towards producing specific results. Referring to the knowledge base in this step allows the individual to refer to previous situations as well as to examine the social and cultural acceptability of specific goal frameworks. The knowledge base also maintains domain knowledge that is useful to help people set 'good goals' - those most likely to promote positive behavioral action and self-regulation (Cassady & Justin, 2008).

**Step 4: Response Selection and Prediction**

In this step, the person examines his interpretation of the situation, takes into account the objective that has been set for the situation, and generates viable solutions that meet the objective within the criteria of the situation. Again, referring to a personal knowledge base is an essential verb that largely determines the differential effectiveness of confrontation responses. By individuals with high and low levels of EI. Those with high emotional
intelligence will have a sharing base of sociocultural knowledge to help identify effective solutions for specific contexts, a repository of potential solutions to choose from, and the ability to assess the likely outcomes for selected responses (Cassady & Justin, 2008).

**Step 5: Enactment**

The final step in the model involves implementing the chosen response or coping strategy. It is normal for the age of resolution to change the emotional state (internal and external perceptions). In an iterative cycle, individuals re-enter the EIP model at the coding step to determine the effectiveness of the chosen solution, the change in emotional state caused by the coping strategy, and the current needs facing the individual (Cassady & Justin, 2008). As Cassady and Justin (2008) said: “We believe that the proposed emotional information processing model serves to frame our understanding of how individuals receive, interpret, and use emotional information. Furthermore, EPA provides a frame of reference to explain how specific coping strategies are adopted and determining why those strategies are selected by individuals.

The purpose of the present study was to examine the extent to which Cassady and Justin’s Functional Model for Emotional Information Processing can be used to improve social emotional competence of Students with learning disabilities. The primary research question was, what effects will Cassady and Justin's Functional Model for Emotional Information Processing have on social emotional competence of Students with learning disabilities?.

**Method**

**Participants**

12 third grade primary school students who had been identified as having learning disability was selected from among students who filled out the Wechsler Intelligence Scale for children and were suspected of having a learning disability. Among those students who were diagnosed with a learning disability as a result of their visit to the Department of Child and Adolescent Psychiatry at State Hospitals in Zagazig (83) were allowed to
participate in the study by their families. The group includes children aged 7 to 9 years who do not have ADHD or other behavioral problems according to the DSM-IV TR. Another advantage of the group is that these children do not use drugs and do not have a known neurological disorder or loss of sensation such as sight or hearing. For these students to participate in this group, their diagnosis of a learning disability and their participation in WISC-R were considered sufficient. And were experiencing social emotional problems. The sample was randomly divided into two groups; experimental (n= 6 boys) and control (n=6 boys). They two groups were matched on age, IQ, and Social emotional Competency. Parental informed consent forms were sent home by the school director and school psychologist to parents of potential participants telling them about the study and requesting them to give permission for their children to participate. Each child also had the following characteristics: (a) meet the full criteria for learning disabilities (b) deficits in social emotional competency depending his score on Social emotional Competency Rating Form.

**Instrument**

The study used the Social Emotional Competence Questionnaire (SECQ) tool developed by Zhou & Ee (2012). The instrument was used to measure students’ social and emotional competence. It was adopted due to applicability in various languages and settings, and accordingly, students were asked to respond to 25 items measured on a five-point Likert scale. The tool contained 25 items and five subscales from 1 (not at all true for me) to 5 (very true for me) with five items for each component, so that a better understanding of self and others could be gained. The sample is made up of items; self-awareness (I can read people’s faces when they are angry); social awareness (understand why people react the way they do); self-management (I can remain calm in stressful situations); relationship management (I will always apologize when I hurt my boyfriend unintentionally); and responsible decision-making (when making decisions, I think about the consequences of my actions). The scale is valid and reliable with an alpha coefficient of $\alpha = 0.89$ (Zhou, & Ee, 2012).

**Procedure**

Learning disabilities in children was identified using who filled in the Wechsler Intelligence Scale for Children and was suspected to have learning disability. Among these students who were diagnosed with learning
disability as a result of their visit to the child and adolescent psychiatry department. Additionally, social competency was identified using Social Emotional Competency Rating Form. The assessment was done in an environment familiar to the children and during their usual intervention time. Treatment consisted of Emotional Information Processing using Cassady and Justin's Functional Model for Emotional Information Processing. The pretest scores were analyzed to ensure parity among the children.

Treatment group received 12 teaching sessions. The duration of each session would be 40-45 minutes. While treatment group students received training using Cassady and Justin's Functional Model for Emotional Information Processing, the control group continued with their regular academic activities. At the completion of the treatment session, students from both groups were tested again on Social Emotional Competency Rating Form.

**Design and Analysis**

The effects of training using Cassady and Justin's Functional Model for Emotional Information Processing on social Emotional competence of third graders student with learning disabilities were assessed using Mann–Whitney U test, Wilcoxon signed-rank test, and Z Value.

**Results**

Cassady and Justin's Functional Model for Emotional Information Processing and development of Social Emotional Competency.

The first objective of the study was to determine if use of Cassady and Justin's Functional Model for Emotional Information Processing training would be more effective for the treatment group compared to the control group. For this purpose, the post intervention scores of both experimental and control groups were analyzed. Table1. Shows Z Value results for the differences in post-test mean rank scores between experimental and control groups in Social Emotional Competency Rating Form. The table shows that (Z) value was 3.271. This value is significant at the level (0.01) in the favor of experimental group.
Table 1. Z Values results for the differences in post-test mean rank scores between experimental and control groups in Social Emotional Competency

<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>Sum</th>
<th>Mann</th>
<th>Z</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Emotional Competency</td>
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<td>9</td>
<td>50</td>
<td>Zero</td>
<td>3.271</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>Cont.</td>
<td>6</td>
<td>4</td>
<td>20</td>
<td></td>
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</tr>
</tbody>
</table>

The second objective of the study was to determine the effect of Cassady and Justin's Functional Model for Emotional Information Processing on the development of Social Emotional Competency in third graders students with learning disabilities. The treatment consisted of Cassady and Justin's Functional Model for Emotional Information Processing training. The children’s performance on Social Emotional Competency was measured pre and post intervention. Table 2. shows Z Value result for the differences in pre-post test mean rank scores on Social Emotional Competency. The table shows that (Z) value was 3.201. This value is significant at the level (0.01). This indicates that use of Cassady and Justin's Functional Model for Emotional Information Processing training had a positive effect on the development of Social Emotional Competency in third graders children with learning disabilities.

Table 2. Z Values results for the comparison of mean rank scores of experimental group at pre- and post-intervention in Social Emotional Competency

<table>
<thead>
<tr>
<th>Variables</th>
<th>Negative Ranks</th>
<th>Positive Ranks</th>
<th>Z Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Emotional Competency</td>
<td>Zero</td>
<td>Zero</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

Discussion

The present study evaluated the effects of Cassady and Justin's Functional Model for Emotional Information Processing (2008) on the development of Social Emotional Competency in third grade students with learning disabilities.
disabilities. The study results showed that Cassady and Justin's Functional Model for Emotional Information Processing training was effective in increasing Social Emotional Competency of all students participated in experimental group in this study. The Emotional Information Processing developed for the study was written according to the Cassady and Justin's Functional Model for Emotional Information Processing.

The strategies used in this training were effective, and this was interesting, as Cassady and Justin (2008) we believe an Emotional Information Processing (EIP) model may be a useful tool to observe, explain, and predict human agency in response to social emotional performance. This proposed framework as a meaningful mechanism through which diverse bodies of literature can be examined to explore the functional relationships among emotion management, cognitive processes, self-regulation and cognitive styles.

Researchers, educators, and academics have put a lot of effort into improving the cognitive skills of school children. However, education as a process is defined as “the education of the whole child” (Weissberg, Durlak, Domitrovich, Gullotta, 2015; Durlak et al., 2011). This means that the process must also integrate the development of cognitive and socio-emotional competence skills to nurture all stages of human development. As such, the results of the current study provide insights into a new teaching approach that can be used to improve students’ social and emotional competence. In addition, teachers and students will be briefed on the importance of the approach in enhancing teaching and learning activities.

The present study contributes in several ways to the effectiveness of Emotional Information Processing (EIP) model literature. First, findings from this study demonstrate the potential benefits of using the Emotional Information Processing (EIP) model intervention as the main intervention to increase the social Emotional competency of third graders students with learning disabilities. Second, this is the important experimental study to be conducted on Cassady and Justin's Functional Model for Emotional Information Processing.

Furthermore, the students in this study did not receive any type of reinforcement or behavior modification strategies while participating in the sessions. Removing strategies such as prompting techniques, token systems, and other reinforcement systems reduced the potential for confusion within the study. Therefore, we can conclude that the social Emotional strategy intervention was primarily responsible for the change in the social Emotional skills of students participated in the study.
In summary, Cassady and Justin's Functional Model for Emotional Information Processing training effectively support the Social Emotional Competency of all students participated in experimental group in this study. Overall, results from this study contribute to the Emotional Information Processing (EIP) model literature for improving the Social Emotional Competency in third primary grade students with learning disabilities.

References


The effect of cassady and Justin’s functional model for emotional info.


تأثير نموذج كاسادي وجوستين الوظيفي لتجهيز المعلومات الانفعالية على تحسين الكفاءة الاجتماعية الاحترافية للطلاب ذوي صعوبات التعلم

الملخص

يعاني العديد من الطلاب ذوي صعوبات التعلم من ضعف في التنظيم الانفعالي، والذي يعد على أنه سمة أساسية لذوي صعوبات التعلم. من المفترض أن يكون النموذج الوظيفي لتجهيز المعلومات الانفعالية لكاسادي وجوسانتين يستخدم عند الملاحظة والتأثر والتأييد أثناء استجابة الفرد للسيناريوهات الانفعالية. إنه نموذج واعد لدعم الكفاءة الاجتماعية الاحترافية للطلاب الذين يعانون من صعوبات التعلم. بينما لا يزال البحث في هذا النموذج في بدايته، فقد استعار الكثير من قاعدة النظرية من نموذج تجهيز Mayer والمعلومات الاجتماعية الخاص بـ Crick و Dodge والانفعالات الخاصة بـ Salovey's andino

تبحث هذه الدراسة في ما إذا كان نموذج كاسادي وجوسانتين الوظيفي لتجهيز المعلومات الانفعالية (EIP) تأثيرات إيجابية على الكفاءة الاجتماعية الاحترافية للطلاب الذين يعانون من صعوبات التعلم. تم اختيار 12 طالبًا يعانون من صعوبات التعلم في المرحلة الإبتدائية، وتم تشخيصهم باستخدام معايرة الاختبار لصعوبات التعلم وكانوا يعانون من مشاكل اجتماعية اجتماعية. تم تقييم تأثير التدريب باستخدام النموذج الوظيفي لتجهيز المعلومات الانفعالية لكاسادي وجوسانتين على الكفاءة الاجتماعية الاحترافية للطلاب الذين يعانون من صعوبات التعلم باستخدام اختبار مان ويليتوون و اختبار ويلككسون (Z Value) Wilcoxon (U) Mann–Whitney (U) إلى فعالية النموذج الوظيفي لتجهيز المعلومات الانفعالية (EIP) المستخدم في زيادة الكفاءة الاحترافية الاجتماعية الاحترافية للطلاب الذين يعانون من صعوبات التعلم.

الكلمات المفتاحية: نموذج تجهيز المعلومات الانفعالية (EIP) الكفاءة الاحترافية الاجتماعية الاحترافية للطلاب ذوي صعوبات التعلم.

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