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## Development and Validation of Critical Consciousness Scale

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### Abstract

The present system of education in the state, Kerala rooted in the principles and ideology of Critical Pedagogy. It claims to empower students with Critical Consciousness. Critical Consciousness can simply defined as the capacity of an individual who is a member of society, to critically reflect and act upon their sociopolitical environment against the oppressions they face during their interferences with society where they inhabit. While going through the literature, the investigator found that the instruments capable of using to measure Critical Consciousness is very rare and if available it is not suitable for the secondary school students especially in Malayalam, otherwise it is not matching the context. In present study the investigator preparing a scale for measuring the level of critical consciousness among eighth standard students. The statements in the instrument based on some contexts with which they are familiar. Their response to these socio-economic, political and cultural contexts given, it is easy to canvass their attitude. The items in the instrument are purely based on the dimensions of the psychological object under study. The article presents the procedure and efforts the investigators made to realize the objective.

**Key Words:** *Critical Consciousness, Critical Reflection, Critical Action, Critical Consciousness Scale.*

### Development and Validation of Critical Consciousness Scale

Critical consciousness is the ability to perceive social, political and economic oppressions and to take action against the oppressive elements of the society. It can simply defined as the capacity of an individual who is a member of society, to critically reflect and act upon their sociopolitical environment against the oppressions they face during their interferences with society where they inhabit. The theory of Paulo Freire (1973; 1993) and related literature reveals that the power for critical reflection and action enables the individuals to liberate themselves from oppressions that prevailing in societies. According to Freire there are two views on humankind. One view conceives humans as objects; they are mouldable and adaptable. The other view sees humans as subjects, independent beings able to transcend and recreate the world. In the first conception humans can be compared with animals. They act and obey without taking time to reflect. Animals cannot view itself as I against not I or in other words it cannot see itself separate from this world. They are submerged in the world. They don't have a chance for self-reflection.

In the second view human beings are seen as subjects they can think and reflect for themselves and can dissociate from the world. The essential difference between humans and animals is that humans can operate in the world through action and

reflection. In his theory Freire (1973; 1993) chooses the thesis ‘that human beings are subjects in and with the world’. Consciousness is determined by the socio-economic and political context and also by critical conditioning through ones upbringing, education and religion. In other words it is an inter change between economic and cultural structures. In present study the investigator preparing a scale for measuring the level of critical consciousness among eighth standard students. The statements in the instrument based on some contexts with which they are familiar. Their response to these socio-economic, political and cultural contexts given, it is easy to canvass their attitude. The items in the instrument are purely based on the dimensions of the psychological object under study.

### **Rationale for Preparing the Instrument: Critical Consciousness Scale**

The present system of education in the state, Kerala rooted in the principles and ideology of Critical Pedagogy. It claims to empower students with Critical Consciousness. Moreover it is the foremost aim considered by the educational policy of the state. For conducting a study in this area the investigator met a need of an instrument for measuring the variable. While going through the literature, the investigator found that the instruments capable of using to measure Critical Consciousness is very rare and if available it is not suitable for the secondary school students especially in Malayalam, otherwise it is not matching the context. Thus, it becomes a necessity to construct an instrument for the mentioned purpose.

### **Dimensions of Critical Consciousness**

Diemer (2003) developed a typology for critical consciousness based on Freire’s theory (1973; 1993) of critical consciousness and other critical consciousness scholars (e.g., O’Connor, 1997; Smith, 1975; Watts et al., 1999). As noted by Diemer (2003) Critical consciousness is composed of two dimensions, capacity for action and capacity for reflection upon one’s sociopolitical environment.

Critical reflection is all about the capacity to reflect on and questioning one’s place within the social order and the belief systems and ideologies which prompts a society to follow sect-based inequality. Critical reflection is learning to think critically about accepted ways of thinking and feeling discerning the hidden interests in underlying assumptions and framing notions (Hopper, 1999). As the notions framed or assumptions raised may be based on class-gender, race, ethnicity or sect.

Critical action component refers to the capacity of individuals to act upon their sociopolitical environment (Diemer, et al., 2006) when critical consciousness develops in an individual, he moves from a state of object of oppressed to subject that acts upon their sociopolitical environment (Freire, 1973; 1993). The people with critical consciousness believe that actions in social and political systems may end in decided and planned outcomes.

### **Method of Construction**

Scale construction is a multifaceted process that involves a series of activities. Analyzing the dimensions, preparing statements based on dimensions, determining validity and reliability, tryout and standardization. Here it begins with the preparation

of items based on the theoretical components of Critical Consciousness; i.e. Critical Action and Critical Reflection

### Item Pool Generation

The first step was to develop a pool of items or statements based on the dimensions of Critical consciousness, the critical action and critical reflection. The statements were prepared with the major assumption that the respondent with favorable and unfavorable attitude has great difference in their beliefs and disbeliefs (Rokeach, 1954). Total 56 items were prepared during this stage. Among them 40 were selected after determining face validity. Ambiguous items and double barreled statements were removed. Certain items which are found potentially misleading were modified. The statements were reframed considerably as appropriate to an eighth standard student consciousness.

Critical reflection, the first component of Critical Consciousness constitutes 25 items. Among them 13 were negative statements and 12 were positive statements. The second component is Critical Action; the instrument carries 15 items regarding this component. Among them 2 were unfavorable statements and 13 were favorable. The component wise item distribution in the instrument is given in figure 1.

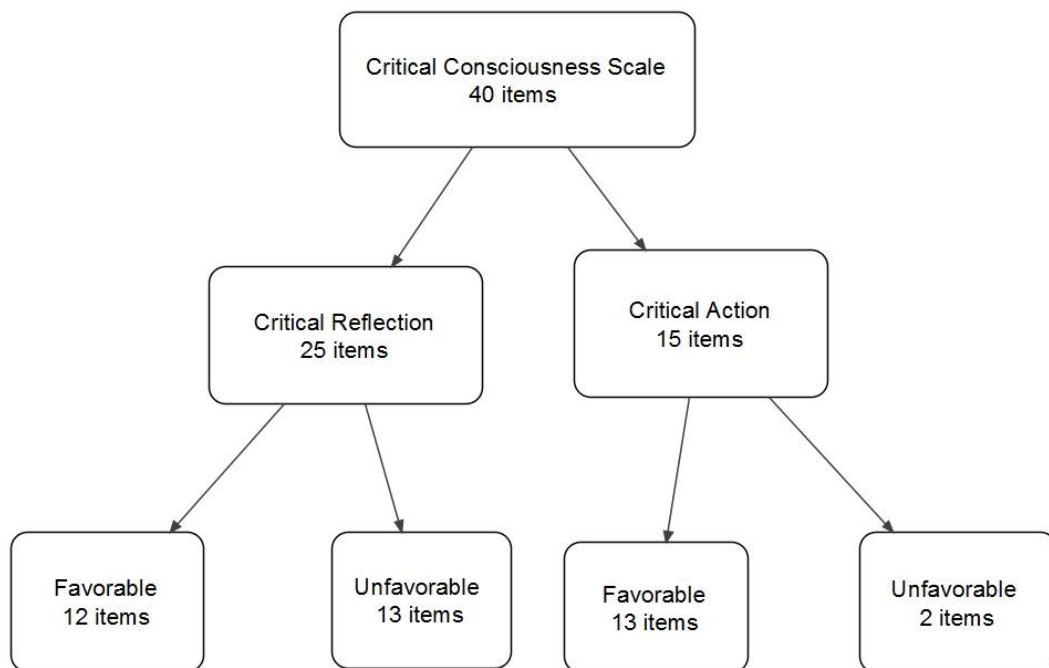


Figure 1. Component Wise Item Distribution in the Instrument.

The instrument is constructed by making use of Lickert's Method of summation to get a five point judgment on each item of the scale. The items in the Critical Consciousness scale are declarative statements for which there are varying degrees of agreement. As this is a five anchored Licker Type agreement scale, the ratings ranges from strongly agree to strongly disagree and scores five for strongly agree and scores one for strongly disagree if it a positive or favorable statement. In case of unfavorable or negative statements the scoring reverses i.e. five for strongly disagree and one for

strongly agree. The undecided attitude always scores three. The scoring procedure is given in table 1.

Table 1.

*The Scoring Procedure for Critical Consciousness Scale.*

Sl. No	Response	Scores	
		Favorable Statements	Unfavorable Statements
1.	Strongly Agree	5	1
2.	Agree	4	2
3.	Undecided	3	3
4.	Disagree	2	4
5.	Strongly Disagree	1	5

**Tryout and Refinement of Statements**

After developing, scrutinizing and refining the scale, investigator carried out the tryout of the instrument. The hard copies of the instrument were administered to a sample of 370 students from Trissur district of Kerala. As the tool is developed to measure the critical consciousness of eighth standard students, the tryout carried out in 370 eighth standard students. After 40 minutes the response sheets were collected. The whole responses collected then were compiled into one master document and it was used to refine the scale items as needed. The whole data were proposed to discrimination process to find out the most suitable statements which discriminates the total group into two, pupil with favorable attitude and pupil with unfavorable attitude towards the psychological object under investigation.

**Item Analysis**

For the purpose of item analysis, the t-value of each item was determined by comparing the response of highest scoring 27 percentages of participants and lowest scoring 27 percentages of participants. It was assumed that these two groups provide criterion groups in terms of which individual statements were evaluated (Edwards, 1957). The master data prepared from the total participants were sorted in descending order to find the highest scoring 27 percentage and lowest scoring 27 percentages. The highest scoring 100 participants were selected as high group and 100 participants scoring low selected as low group. For evaluating the responses of high and low groups to the individual statements a ratio ‘t’ is found out. The value of ‘t’ is a measure of the extent to which a given statement differentiates between the high and low groups. And t-value greater than 1.75 indicates that the average response of the high and low group to a statement differs significantly (Edwards, 1957). Here in present study the researcher fixed the limit of rejection as 1.96, the table value for 0.05 level of significance for convenience. The table 2 shows the t-value of each statement and whether the statement is accepted or not.

Table 2.

*t-value of Statements in Critical Consciousness Scale and Its Remarks.*

Qn. No	Category	Mean	Standard Deviation	t- Value	Remarks
1	Upper	4.62	0.817	6.597	Accepted
	Lower	3.52	1.531		
2	Upper	4.60	0.853	3.205	Accepted
	Lower	4.15	1.198		
3	Upper	2.31	1.450	1.653	Rejected
	Lower	2.00	1.260		
4	Upper	4.59	0.670	7.657	Accepted
	Lower	3.57	1.209		
5	Upper	4.72	0.639	7.214	Accepted
	Lower	3.69	1.336		
6	Upper	4.68	0.795	6.721	Accepted
	Lower	3.55	1.555		
7	Upper	4.58	1.128	9.216	Accepted
	Lower	2.85	1.593		
8	Upper	4.57	0.673	7.460	Accepted
	Lower	3.53	1.293		
9	Upper	4.79	0.737	6.010	Accepted
	Lower	3.81	1.511		
10	Upper	4.51	0.791	6.170	Accepted
	Lower	3.52	1.469		
11	Upper	4.31	1.212	7.130	Accepted
	Lower	3.04	1.414		
	Upper	4.47	0.803		

12	Lower	3.34	1.382	7.346	Accepted
13	Upper	4.60	0.492	7.228	Accepted
	Lower	3.63	1.308		
14	Upper	3.08	1.193	1.895	Rejected
	Lower	2.76	1.318		
15	Upper	4.93	0.297	9.163	Accepted
	Lower	3.60	1.472		
16	Upper	4.56	0.801	8.241	Accepted
	Lower	3.27	1.412		
17	Upper	4.66	0.822	5.378	Accepted
	Lower	3.83	1.364		
18	Upper	3.53	1.350	3.088	Accepted
	Lower	2.94	1.468		
19	Upper	2.77	1.378	- 0.687	Rejected
	Lower	2.90	1.394		
20	Upper	3.64	1.603	3.496	Accepted
	Lower	2.91	1.470		
21	Upper	3.76	1.522	4.699	Accepted
	Lower	2.83	1.371		
22	Upper	4.70	0.740	8.576	Accepted
	Lower	3.35	1.462		
23	Upper	2.85	1.167	0.228	Rejected
	Lower	2.81	1.216		
	Upper	4.65	0.688		

24	Lower	3.16	1.145	11.597	Accepted
25	Upper	4.37	0.718	9.096	Accepted
	Lower	3.16	1.185		
26	Upper	4.84	0.414	9.005	Accepted
	Lower	3.68	1.281		
27	Upper	4.52	0.837	9.893	Accepted
	Lower	3.06	1.277		
28	Upper	4.44	0.777	7.764	Accepted
	Lower	3.23	1.412		
29	Upper	4.15	1.150	6.012	Accepted
	Lower	3.20	1.158		
30	Upper	4.44	0.879	9.861	Accepted
	Lower	2.97	1.279		
31	Upper	4.70	0.727	10.261	Accepted
	Lower	3.18	1.366		
32	Upper	4.31	1.099	6.988	Accepted
	Lower	3.18	1.289		
33	Upper	4.95	0.211	10.267	Accepted
	Lower	3.46	1.494		
34	Upper	3.61	1.534	3.308	Accepted
	Lower	2.94	1.426		
35	Upper	4.14	1.211	5.044	Accepted
	Lower	3.27	1.323		
	Upper	4.88	0.542		

36	Lower	3.48	1.513	9.040	Accepted
37	Upper	4.93	0.327	9.854	Accepted
	Lower	3.62	1.338		
38	Upper	1.50	0.932	-4.686	Accepted
	Lower	2.24	1.353		
39	Upper	2.74	1.585	0.326	Rejected
	Lower	2.68	1.324		
40	Upper	4.59	0.762	8.256	Accepted
	Lower	3.41	1.283		

The statements with t-value greater than 1.96 is accepted and those less than 1.96 are rejected. Five statements having t-value less than 1.96 are avoided from the instrument. Four statements (Sl. No. 3,9,14 & 23) rejected comes under the dimension critical reflection and one (Sl. No. 39) from the dimension Critical action. All rejected items are negative statements. The final scale is designed with 35 statements to measure Critical Consciousness. The total score in the final scale for Critical consciousness ranges from 1 to 175. As it is summated rating, a subject's score for Critical consciousness is represented by the sum total of scores of all statements. The higher the score obtained in the scale, the higher will be the level of critical consciousness of the individual.

The final statements selected under each dimension are given in table 3.

Table 3.

*The Distribution of Items of Refined Critical Consciousness Scale under Each Dimension*

**Validity and Reliability of the Instrument**

Sl. No.	Dimensions	Sl. No. of statements		Total No. of Statements
		Positives	Negatives	
1.	Critical Reflection	5,6,7,18,26,27,30,31,32,33,35,36	1,2,9,11,15,17,20,29,21	21
2.	Critical Action	4,8,10,12,13,16,22,24,25,28,34,37,40	38	14

Validity is an important key to effective research. If a piece of research is invalid then it is worthless (Cohen, Manion & Morrison, 2007). It is inexorable while considering the quantitative research. To deal with the validation process of the instrument primarily it need to be confronted with face validity and content validity.



Discussions with supervising teacher, who is expert in this area, made the validation process quite promising and thus ensured the face and content validity. As the statements of the scale were prepared on the basis proposed dimensions of well-known theories of Critical Consciousness, the construct validity is established. The criterion related validity ( $r = .72$ ) is established with the translated version of Critical Consciousness Scale of Matthew A. Diemer (2017), in which the same dimensions, Critical Reflection and Action, were used for the measurement of the construct.

The meaning of reliability varies in forms of qualitative and quantitative research. In Quantitative research it is deemed as a synonym for dependability, consistency and replicability over time, over instruments and over groups of respondents (Cohen, Manion & Morrison, 2007). The reliability coefficient of the scale was determined with Cronbach's Alpha test with the help of Statistical Package for Social Science. The test determines the internal consistency of the Scale. The process of determining reliability with this test is more or less simple, but following the prescribed rule is a necessity (George & Mallery, 2003; Kline, 2000; DeVellis, 2012). Here the instrument got the value 0.824 as reliability coefficient. According to the speculated rules the value indicates that the instrument is a 'good' one. The reliability coefficient above 0.8 indicates good quality.

#### **Dictating Time allotment**

After tryout and refinement, the final instrument was administered the Critical consciousness scale in a random sample of 10 eighth standard pupils in order to dictate the time allotment. The time taken by the students for completing response to all statements was noted. Average time taken by the students was calculated and found as 38 minutes. Based on this procedure, it is decided to allot 38 minutes to complete the response further in the pre-treatment and post-treatment phases.

#### **Administration**

The instrument was used for both pre-test and post-test in Experimental and Control groups. Critical consciousness scale along with the response sheet, where the students need to mark their responses is provided to participants. Appropriate instructions were given to the groups before distribution of the instrument. 38 minutes were already dictated as the time required responding to all statements. The data were collected after 38 minutes of distribution and proposed for analysis.

#### **Conclusion**

The educational system of the state largely confirming to an un-denied aim of developing Critical Consciousness in children. But the system would not give proper prominence to the evaluation of this purpose. The study ultimately aimed to develop and empirically validate an instrument that could measure Critical Consciousness of Secondary school students. It can be used in researches where need to measure the level of Critical Consciousness of Secondary School Students. The article presents the procedure and efforts the investigators made to realize the objective. It also records the steps that followed in the refinement and validation of the instrument prepared to make it trustworthy and to confirm the criteria that the statements are anchored properly in dimensions of the construct under study. The article also carries the

discussion for the use of the scale and dictated the time span need to be used. While assuring the extent of applicability of the scale, it need to be clarified that the scale may not be used universally for the same purpose as the statements were prepared contextually, which are familiar for the students of Kerala. But it can be applicable universally with contextual modification of statements. The developed instrument may an asset for Educational research while dealing with the construct Critical Consciousness of Secondary School Students.

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