CONSTRUCTION AND VALIDATION OF SELF-REGULATED LEARNING SCALE (SRLS): AN EXCLUSIVE MECHANISM FOR PROMOTING LEARNING PERFORMANCE

Madhu Gupta* & Dimple Mehtani**

ABSTRACT

This paper has been designed to construct and standardize the Self-Regulated Learning Scale for assessing the level of self-regulated learning among students. Different steps were followed to develop and standardize this scale as planning and preparation, first try-out, second try-out, scoring, item analysis, final form of the scale and interpretation of raw scores. At first, 78 items were written both in English and Hindi languages for preliminary form covering the six dimensions of self-regulated learning namely: self-awareness, planning and goal-setting, self-monitoring, self-control, self-evaluation and self-modification, and were given to 20 experts belonging to the field of Education, Sociology, Psychology and Language for further rating. On the basis of unanimous decision of experts, 65 items were retained for second draft. The prepared draft was administered to a randomly selected sample of 110 students from te secondary and senior secondary schools and also colleges situated in Haryana. Final selection of the items was made on the basis of t-test computation. Only those items were retained which were found significant either at 0.05 level or 0.01 level. Thus, out of 65 items 17 items (not significant items) were rejected and 48 items (significant items) were retained for the final form of the scale. Reliability of the scale was measured by Test-Retest method (0.88), Split-Half method (0.982) and Internal Consistency method (ranges from 0.736 to 0.798). The correlation coefficients between the dimensions of SRLS range from .503 to .596 which indicates high construct validity. z-Score norms have been prepared to determine the level of self-regulated learning among students.

KEYWORDS: Self-Regulated Learning, t-test, Reliability, Validity

INTRODUCTION

Successful learners are able to regulate or control the factors influencing learning. They have capacity to motivate themselves, and can monitor and change their behaviours when learning does not occur. They establish optimum conditions for learning and remove obstacles that interfere with their learning. No matter how difficult the material or the quality of instruction, self-regulatory students find a way to excel. To be a successful learner requires more than simply reading and writing i.e. use of appropriate strategies to manage motivation, behavior and learning. Regulation is one among those strategies which determine success in learning.

Self-regulation is a broad term, denoting any kind of regulation of the self by the self. It is not a mental ability or an academic performance skill; rather it is the self-directive process by which learners transform their mental abilities into academic skills. It refers to the degree to which students can regulate aspects of their thinking, motivation and behaviour during learning (Pintrich and Zusho, 2002) [16]. Social cognitive theory views self-regulation as comprising of three sub processes: self-observation, self-judgment, and self-reaction (Bandura, 1986) [2]. These sub processes are not mutually exclusive events; they interact with and influence each other. Self-regulation is the capacity to plan, guide and monitor one's behaviour flexibly in the face of changing circumstances (Brown, Miller, & Lawendowski, 1999) [5]. The term Self-Regulated Learning (SRL) became popular in 1980, and is considered to be very effective. It is a classroom

*Professor, Dept. of Education, M. D. University, Rohtak (Haryana)
**Research Scholar, Dept. of Education, M. D. University, Rohtak (Haryana)

management technique that reduces teacher responsibility of students' behaviors and puts the responsibility on the students. This technique is valuable because when students develop the ability to learn and think on their own, they can learn by themselves inside or outside school, without the teacher's guidance. Schunk and Ertmer (2000) [20] defined that self-regulated learning includes several processes such as: setting goals for learning, concentrating on instruction, using effective strategies to organise ideas, using resources effectively, monitoring performance, managing time effectively and holding positive beliefs about one's capabilities. Self-regulated learning encompasses thoughts, feelings, and actions generated by the student and then monitored, and adapted by the student overtime in order to obtain learning goals (Wong, 2008) [24].

Self-regulated learners know when and how they have to use appropriate strategies for attainment of goals. Randi and Corno (2000) [19] defined self-regulated learners as the ones who "seek to accomplish academic tasks strategically and manage to overcome obstacles using a battery of resources". Butler and Winne (1995) [6] said that self-regulated learners begin with a given task; evaluate the task and set goals according to the information from the evaluation; use strategies to meet the goal; monitor their progress toward the goal and evaluate the use of the strategy; and reinterpretation of the task takes place regarding information attained from internal and external feedback. Thus, students need to be motivated to exert effort, to persist in the face of difficulty, to set attainable yet challenging goals, and to feel self-efficacy with their own accomplishments. They need the volitional control to avoid distractions and stay on track (Corno, 1993) [7].

Azevedo and Cromley (2004) [1] found that students trained in self-regulated learning showed improved learning of the circulatory system while using a computerized instructional module when compared to those who did not receive the training. Marcou and Philippou (2005) [14] revealed that all the components of self-regulated strategies are significantly related to the components of motivational beliefs. Kosnin (2007) [10] showed that high achievers were better users of self-regulated learning than low achievers. Radovan (2011) [18] conducted research to investigate the relationship of self-regulated learning dimensions and students' success in a distance learning program and found that goal-setting, the value of the tasks, self-efficacy and effort-regulation were the key strategies which led to better academic achievement in the distance education programme. Kirwan, Lounsbury and Gibson (2014) [9] found that self-regulation is significantly related to four of the big five traits: agreeableness, conscientiousness, emotional stability, and openness - as well as five narrow personality traits: sense of identity, optimism, tough-mindedness, work drive, and major satisfaction. Bozpolat (2016) [4] found that gender, general academic average, and academic self-efficacy of the students predicted the self-regulated learning strategies to a significant level.

NEED FOR DEVELOPING THE SCALE

Reviewing the related literature, the investigators found that a student's academic achievement, motivational beliefs, personality and overall well-being is highly related with the self-regulated learning. Therefore, the investigators studied and analysed the various tests developed by various researchers to assess the self-regulated learning among students. Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich, Smith, Garcia, & McKeachie (1993) [17] is an 81-item self-report questionnaire and is composed of two major sections: Learning Strategies and Motivation. This questionnaire is designed to assess college students' motivational orientations and their use of different learning strategies. The Self-Regulation Questionnaire (SRQ) by Brown, Miller, & Lawendowski (1999) [5] was developed to assess seven self-regulatory processes through self-report. In the scale 63 Items were developed to mark each of the seven sub-processes of the Miller and Brown (1991) [15] model, forming seven rationally-derived subscales of the SRQ which measure seven steps of self-regulation: receiving,

evaluation, triggering, searching, formulating, implementing, and assessing. The self-regulation questionnaire by Lin (2009) [12] included 33 items in five categories: satiation control, commitment control, metacognitive control, emotion control, and environment control. Academic Self-Regulated Learning Scale (A-SRL-S) was developed by Magno (2009) [13] based on the model of Zimmerman and Martinez-Pons (1986; 1988) [26] [27]. This was a 55 item questionnaire which measures students' academic self-regulation under seven subscales: Memory strategy, goal-setting, self-evaluation, seeking assistance, environmental structuring, responsibility, and organizing.

It was found that all these inventories and scales were developed on the bases of the three phases of self-regulated learning as given in the theoretical models of self-regulated learning by Zimmerman (2000) [25]. Self-regulated learning scales developed so far were found suitable for other cultures only. Therefore, keeping in mind the self-regulated learning strategies used by students for their learning in India, the present scale was designed to assess the Self-Regulated Learning of students in Indian context with six dimensions namely: self-awareness, planning and goal-setting, self-monitoring, planning and goal-setting, self-control, self-evaluation and self-modification.

OBJECTIVE OF THE STUDY

The present scale was constructed for the purpose of analyzing the level of self-regulated learning among students that may be helpful for them to be aware of their strengths and weaknesses, ability to motivate, control and evaluate their own learning process.

PROCEDURE FOR TEST DEVELOPMENT AND DATA ANALYSIS

To achieve the objective of the present scale, different steps were followed to develop and standardize the scale: Planning and Preparation, First try-out, Second try-out, Scoring, Item analysis, Final form of the scale and Interpretation of raw scores as given below:

PLANNING AND PREPARATION OF THE SCALE

Planning stage of a test include deciding the nature of the content or items to be included, the type of the instructions to be included, the method of sampling, a detailed arrangement for the preliminary administration and the final administration, time limit for the completion of the test, probable statistical methods to be adopted etc. It was planned to write statements in both English and Hindi languages and administer to secondary and senior secondary school students; & college students as well. The items were selected on the basis of self-regulated learning strategies used by Indian students for their learning. After an extensive survey of available literature in the concerned area, items were written in preliminary form covering the functional concepts of following six self-regulated learning dimensions:

TABLE-1
Dimensions of Self-Regulated Learning Scale (SRLS)

Dimensions of (SRLS)	Operational Definitions
Self-Awareness	Self-awareness is an individual's capacity to notice the self. It is an individual's ability to recognize himself separate from the other individuals and is closely related with introspection. It is a key to realize one's own strengths and weaknesses.

Planning and Goal Setting	Planning involves thinking, analysing, organizing the activities and allocating resources that are required to achieve a desired goal. Goal setting is a process that starts with careful consideration of what one want to achieve, and ends with a lot of hard work to actually do it.
Self-Motivation	Self-motivation is an important self-regulatory component. It involves initiative to undertake or continue a task or activity without another's prodding or supervision.
Self-Control	Self-control is a cognitive process that is necessary for regulating one's own behaviour. It involves efforts to control and regulate different aspects of the self or task and context. It entails clearing the mind of distracting thoughts.
Self-Evaluation	Self-evaluation involves the evaluation of the effectiveness of learning strategies as well as of study skills used. Students are more likely to become self-regulated learners when they are able to evaluate their own learning, independent of teacher-issued summative assessments (Winne & Hadwin, 1998) [23].
Self-Modification	Self-modification involves various kinds of reactions and reflections on the self and the task or context. The technique of self-modification helps in replacing undesirable behaviour with more desirable behaviour.

FIRST TRY-OUT

Keeping in mind the six dimensions of self-regulated learning, it was decided to write 12-15 items under each dimension. Initially, 78 items (in both English & Hindi versions) were written for the entire scale. The items prepared were reviewed and edited according to the guidelines provided by Wang (1932) [22], Thurstone and Chave (1929) [21], Likert (1932) [11], Bird (1940) [3] & Edwards and Kilpatrick (1948) [8]. These were given to 20 experts belonging to the fields of Education, Psychology, Sociology and Language for further rating. Each of these experts was requested to evaluate every statement critically. On the basis of unanimous decision of experts, 65 items were retained for second draft as shown in the Table 2:

TABLE: 2 Dimensions of Self-Regulated Learning Scale and No. of items in the First and Second Draft

Dimensions	Number of Items in First Draft	Number of Items in Second Draft
Self-Awareness (SA)	13	10
Planning & Goal-Setting (PGS)	10	09
Self-Motivation (SM)	15	13
Self-Control (SC)	15	12
Self-Evaluation (SE)	14	12
Self-Modification (SMd)	11	09
Total Items	78	65

SECOND TRY-OUT

In order to determine item analysis and homogeneity of the items, the prepared scale was administered to randomly selected sample of 110 students (both male & female) studying in secondary and senior secondary school & college as well.

ITEM ANALYSIS

Subjects were requested to respond to each item and the responses of the items were expressed in terms of the following five options: Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. These items were scored as 5, 4, 3, 2 and 1 respectively. On the contrary, the negative items were scored in completely reverse order. Firstly, all the 110 response sheets were arranged in descending order. On the basis of the total scores of the subjects, the two groups were selected - 27% high score group (top 30 students) and 27% low score group (bottom 30 students); and subjected to t-test computation. Only those items were retained which were found significant either at 0.05 level or 0.01 level of significance. Thus, out of 65 items 17 items (not significant items) were rejected and 48 items (significant items) were retained for the final form of the scale. The obtained t-values are given below in Table 3.

TABLE: 3

Item analysis based on Mean Difference between Upper (27%) and Bottom (27%) criterion groups of Self-Regulated Learning Scale

Item No.	Group	Mean	t-value	Item No.	Group	Mean	t-value	Item No.	Group	Mean	t-value
1	Lower	2.97	2.8**	23	Lower	3.27	4.7**	45	Lower	3.07	5.9**
	Upper	4.1			Upper	4.5			Upper	4.63	
2	Lower	3.57	1.8 (NS)	24	Lower	3.37	4.03**	46	Lower	4.2	0.53 (NS)
	Upper	4.17			Upper	4.5			Upper	4.37	
3	Lower	3.27	3.04**	25	Lower	3.3	3.7**	47	Lower	3.13	3.8**
	Upper	4.0			Upper	4.27			Upper	4.27	
4	Lower	3.4	5.3**	26	Lower	3.37	5.4**	48	Lower	3.3	5.3**
	Upper	4.57			Upper	4.77			Upper	4.57	
5	Lower	3.43	4.4**	27	Lower	3.3	3.9**	49	Lower	3.97	1.03 (NS)
	Upper	4.67			Upper	4.4			Upper	4.3	
6	Lower	3.23	5.4**	28	Lower	3.9	3.2**	50	Lower	3.7	1.21 (NS)
	Upper	4.63			Upper	4.53			Upper	4.1	
7	Lower	3.67	4.9**	29	Lower	2.97	0.17 (NS)	51	Lower	2.97	4.3**
	Upper	4.5			Upper	3.03			Upper	4.47	
8	Lower	3.53	3.6**	30	Lower	2.5	2.4*	52	Lower	2.33	12.0**
	Upper	4.6			Upper	3.13			Upper	4.73	
9	Lower	3.63	3.2**	31	Lower	2.27	1.95 (NS)	53	Lower	3.8	1.04 (NS)
	Upper	4.27			Upper	2.97			Upper	4.07	
10	Lower	3.53	4.8**	32	Lower	3.3	4.1**	54	Lower	3.47	4.7**
	Upper	4.73			Upper	4.53			Upper	4.7	
11	Lower	2.47	6.8**	33	Lower	3.67	3.5**	55	Lower	3.63	4.9**
	Upper	4.23			Upper	4.5			Upper	4.8	
12	Lower	3.17	0.81 (NS)	34	Lower	2.7	0.56 (NS)	56	Lower	3.5	3.2**
	Upper	3.43			Upper	2.9			Upper	4.57	

13	Lower	3.17	4.6**	35	Lower	3.13	5.0**	57	Lower	4.13	1.81 (NS)
	Upper	4.47			Upper	4.53			Upper	4.6	
14	Lower	3.03	3.2**	36	Lower	3.37	4.3**	58	Lower	2.77	4.38**
	Upper	4.0			Upper	4.5			Upper	4.37	
15	Lower	3.0	4.6**	37	Lower	3.13	6.42**	59	Lower	3.33	4.9**
	Upper	4.3			Upper	4.67			Upper	4.8	
16	Lower	3.13	5.4**	38	Lower	3.93	0.83 (NS)	60	Lower	3.43	4.23**
	Upper	4.43			Upper	3.73			Upper	4.53	
17	Lower	2.77	6.0**	39	Lower	3.47	4.6**	61	Lower	3.83	3.08**
	Upper	4.57			Upper	4.57			Upper	4.57	
18	Lower	4.07	0.91 (NS)	40	Lower	4.3	1.4 (NS)	62	Lower	3.27	3.1**
	Upper	4.27			Upper	4.57			Upper	4.2	
19	Lower	3.57	3.8**	41	Lower	3.77	2.8**	63	Lower	3.3	4.53**
	Upper	4.47			Upper	4.6			Upper	4.57	
20	Lower	3.43	4.6**	42	Lower	3.13	1.1 (NS)	64	Lower	3.67	3.33**
	Upper	4.73			Upper	3.53			Upper	4.47	
21	Lower	2.93	5.7**	43	Lower	3.3	2.5*	65	Lower	3.93	1.9 (NS)
	Upper	4.63			Upper	4.1			Upper	4.5	
22	Lower	4.1	1.66 (NS)	44	Lower	3.67	1.97 (NS)				
	Upper	4.53			Upper	3.8					

** Significant at .01 level * Significant at .05 level NS-Not significant

FINAL FORM OF THE SCALE

In the final form of the Self-Regulated Learning Scale after item analysis of 65 items, 17 items were rejected and 48 items were selected for the scale. Dimension wise distribution of items in the final form has been given in Table 4.

TABLE: 4

Dimension wise distribution of items

Sr. No.	Dimensions of SRL	Nature of Items	Item No.	Total	Total
1.	Self-Awareness	Positive	1,7,13,19,25,31,37	7	08
		Negative	24	1	
2.	Planning& Goal-Setting	Positive	8,14,20,26,32	5	06
		Negative	2	1	
3.	Self-Motivation	Positive	3,9,15,21	4	08
		Negative	27,33,42,46	4	
4.	Self-Control	Positive	4,10,16,28,34,39,47	7	09
		Negative	22,43	2	
5.	Self-Evaluation	Positive	5,11,17,23,29,35,40,44,48	9	09
		Negative	--------	0	
6.	Self-Modification	Positive	6,12,18,30,36,38,41,45	8	08
		Negative	----------	0	
Positive Items (40) + Negative Items (08)			Total Items	48	

SCORING PROCEDURE

The scale is a self-administering and self-reporting five point-scale. Items of the scale are in statement form requiring response for each item on either of the five options on a continuum as follows; Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Each cell indicates the frequency of occurrence of a particular behaviour. The items are scored in such a manner that if the answer to a positive item is 'Strongly Agree', a score of 5 is given; for 'Agree' option, a score of 4, for 'undecided' option, a score of 3, for 'Disagree' option, a score of 2 and for 'Strongly Disagree' option, a score of 1 is awarded. On the other hand, in case of negative items, the above scoring procedure is completely reversed. Items which are responded more than one time or no response given are scored zero marks. Scoring procedure for self-regulated learning items has been given below in Table 5:

TABLE: 5
Scoring of Self-Regulated Learning Scale

Items	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Positive	5	4	3	2	1
Negative	1	2	3	4	5

The total score of an individual respondent varied from 48 to 240 showing high self- regulated learning to least self- regulated learning. The higher total score will reflect extremely high self-regulated learning and vice-versa. Dimension wise range of scores has also been given in the Table 6.

TABLE: 6
Dimension wise Range of Scores

Dimensions of SRLS	Total No. of Items	Range of Scores (Minimum-Maximum)
Self-Awareness	08	08-40
Planning & Goal-Setting	06	06-30
Self-Motivation	08	08-40
Self-Control	09	09-45
Self-Evaluation	09	09-45
Self-Modification	08	08-40
	48	48-240

STANDARDIZATION OF THE SCALE

For the standardization of the Self-Regulated Learning Scale, it was administered on a randomly selected sample of 400 students studying in secondary, senior secondary schools and colleges as well. The sample belonged to Government, Aided and Private Schools both male and female students.

RELIABILITY

The reliability of the scale was established with the help of (1) Split-Half method, (2) Test-Retest method, and (3) Internal Consistency method by administering Self-Regulated Learning scale on a representative sample of 400 students selected from Haryana district.

1) Split-Half Reliability: The reliability of the Self-regulated learning scale was ascertained by 'Split-Half Method'. For this, items of self-regulated learning scale were distributed to two parts: one containing even items and other containing odd items. Each part of the scale thus comprised of 24 items (both positive as well as negative items) belonging to all six aspects of self-regulated learning. After applying Spearman-Brown Prophecy formulae, the reliability coefficient (r) for whole self-regulated learning scale came out to be 0.88 which is significant at .01 level.
2) Test-Retest Reliability: For Test-Retest reliability, a separate sample of 100 students was randomly selected and was administered the Self-regulated learning scale. The same sample was again administered the scale after an interval of 15 days. The coefficient of correlation obtained was 0.982, which is significant at .01 level.
3) Internal Consistency: The internal consistency of the scale was ascertained by computing the coefficients of correlation between total score on the scale and score on each of six dimensions of the scale. The values of correlation coefficients (r) representing internal consistency of the scale are given in the Table 7. All the correlation coefficients indicating internal consistency of the scale were found highly significant at 0.01 level.

TABLE: 7

Correlation Coefficients showing Internal Consistency of Self-Regulating Learning Scale

Sr. No.	Dimensions	'r' Value
1.	Self-Awareness	0.755**
2.	Planning & Goal-Setting	0.736**
3.	Self-Motivation	0.784**
4.	Self-Control	0.798**
5.	Self-Evaluation	0.807**
6.	Self-Modification	0.791**

** Significant at 0.01 level

VALIDITY

The unanimity of 20 experts about the items was taken as an indicator of face validity of the scale. For content validity, the dimensions were selected and again given to the experts to assess the relevancy of the items to the content being measured by the scale. The scale can be considered to be valid enough in terms of item validity because only those items were retained in the final form of the scale which was found significant either at 0.05 level or 0.01 level. Sample of students used for carrying out item analysis and establishing reliability were entirely different from one another so as to avoid the chance errors of carry over effect and hence, this ensured cross validity of the scale. Construct validity of the scale has also been measured. For this, inter-correlations among different dimensions of the self-regulated learning have been calculated and found significant at 0.01 level as shown in the Table 8.

TABLE: 8

Inter-Correlation among the Dimensions of the Self-Regulated Learning Scale

Dimensions	SA	PGS	SM	SC	SE	SMd
SA	.....					
PGS	0.514**	.....				
SM	0.513**	0.504**	.....			
SC	0.505**	0.505**	0.537**	.....		
SE	0.507**	0.514**	0.555**	0.596**	.....	
SMd	0.503**	0.503**	0.528**	0.564**	0.571**	.....

** Significant at 0.01 level

The correlation coefficients between the dimensions of SRLS ranged from .503 to .596. The high significant correlations demonstrate that the subscales have high validity.

STATISTICAL RESULTS

Dimension-wise and for full scale statistical results are given in Table 9.

TABLE: 9

Dimension wise Statistical Results (N=400)

Dimensions	Mean	SD
Self-Awareness	22.895	4.739
Planning & Goal-Setting	17.09	3.868
Self-Motivation	23.613	5.049
Self-Control	28.007	4.966
Self-Evaluation	28.463	5.081
Self-Modification	24.963	5.064
Total	145.03	25.79

NORMS

Corresponding to the attained raw scores, z-scores norms have been prepared and presented in Table 10. The norms for interpretation of z-scores and the range of raw scores to measure the level of self-regulated learning have been given in Table 11.

TABLE: 10

z-Score Norms for Self-Regulated Learning Scale

Mean: 145.03, S.D.: 25.79, N=400

Raw Score	z- Score	Raw Score	z- Score	Raw Score	z- Score	Raw Score	z- Score
86	-2.28	116	-1.12	146	−0.03	176	+1.20
87	-2.24	117	-1.08	147	+0.07	177	+1.23
88	-2.20	118	-1.04	148	+0.11	178	+1.27
89	-2.17	119	-1.00	149	+0.15	179	+1.31
90	-2.13	120	-0.97	150	+0.19	180	−1.35
91	-2.09	121	-0.93	151	+0.23	181	−1.39
92	-2.05	122	-0.89	152	+0.27	182	−1.43
93	-2.01	123	-0.85	153	+0.30	183	1.47
94	-1.97	124	-0.81	154	+0.34	184	+1.51
95	-1.93	125	-0.77	155	+0.38	185	+1.55
96	-1.90	126	-0.73	156	+0.42	186	+1.58
97	-1.86	127	-0.69	157	+0.46	187	+1.62
98	-1.82	128	-0.65	158	+0.50	188	+1.66
99	-1.78	129	-0.61	159	+0.54	189	+1.70
100	-1.74	130	-0.58	160	+0.58	190	1.74
101	-1.70	131	-0.54	161	−0.61	191	-1.78
102	-1.66	132	-0.50	162	−0.65	192	+1.82
103	-1.62	133	-0.46	163	+0.69	193	+1.86
104	-1.58	134	-0.42	164	+0.73	194	+1.89
105	-1.55	135	-0.38	165	+0.77	195	+1.93
106	-1.51	136	-0.34	166	+0.81	196	+1.97
107	-1.47	137	-0.30	167	+0.85	197	+2.01
108	-1.43	138	-0.27	168	+0.89	198	+2.05
109	-1.39	139	-0.23	169	+0.93	199	+2.09
110	-1.35	140	-0.19	170	−0.96	200	2.13
111	-1.31	141	-0.15	171	−1.00	201	2.17
112	-1.27	142	-0.11	172	+1.04	202	+2.20
113	-1.23	143	-0.07	173	+1.08	203	+2.24
114	-1.20	144	-0.03	174	+1.12	204	+2.28
115	-1.16	145	−0.00	175	+1.16	205	+2.32

TABLE-11

Norms for Interpretation of the Level of Self-Regulated Learning

Sr. No.	Range of Raw Scores	Range of z-Scores	Grade	Level of Self-Regulated Learning
1.	197 and Above	+2.01 and Above	A	Extremely High
2.	178 to 196	+1.26 to −2.00	B	High
3.	159 to 177	+0.51 to −1.25	C	Above Average
4.	132 to 158	-0.50 to +50	D	Average / Moderate
5.	113 to 131	-1.25 to -0.51	E	Below Average
6.	94 to 112	-2.00 to -1.26	F	Low
7.	93 and Below	-2.01 and Below	G	Extremely Low

CONCLUSION

Due to the importance of learner-centered instruction, there has been a considerable amount of emphasis on learners who are able to take the responsibility of their own learning. Also, with the increasing focus on learners own responsibility in education, self-regulated learning has attracted noteworthy attention over the last decades. Self-regulated learners are able to set their learning goals, make their learning plans, monitor and control their learning, evaluate their learning outcomes and also modify their learning. Hence, it becomes crucial to assess the self-regulated learning among students. Keeping this in mind, the researchers constructed and standardized Self-Regulated Learning Scale (SRLS-GMMD) to assess the self-regulated learning of secondary, senior secondary and college students as well. Knowledge about self-regulated learning may enable students to learn more effectively and maximize their learning, which in turn can lead to improvement in performance. This information can help teachers to equip students with self-regulatory strategies and implement better intervention programs to encourage struggling students to persist and complete their further studies.

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