# DYNAMIC TEACHING AND ASSESSMENT INTERVENTION FOR READING DIFFICULTIES IN EARLY GRADES: EXPERIENCE FROM DODOMA, TANZANIA

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#### ABSTRACT

The study investigated the power of Dynamic Teaching and Assessment (DTA) in improving reading skills of the pupils with potential risk of reading difficulties in early grades in Tanzanian public primary schools. The study used pretest and posttest to develop pupil's reading ability. A total of 407 (234 grade one; 173 grade two) among them, 111 pupils (55 boys 56 girls) from grade one formed an experimental group and 123 pupils (53 boys, and 70 girls) were in the control group. Meanwhile, a total of 102 grade two pupils (50 boys; and 52 girls) were in the experimental group whereas, 71 pupils (36 boys; and 35 girls) constituted a control group.

The repeated ANOVA was used to determine the mean differences of the test scores of both the pretest and posttest of the grade one and two pupils. The analysis indicates that the experimental group in each grade improved their reading ability significantly compared to the control groups. The study concludes that the DTA is a powerful teaching and learning strategy to the pupils at risk of reading difficulty. It therefore recommends that DTA should be used in to help majority of pupils struggling in reading.

**Keyword:** Dynamic approach, Dynamic Teaching and Assessment, experimental design, randomization, and reading

#### **INTRODUCTION AND BACKGROUND**

It is essentially recognized that any learner engaged in reading programme would develop continuous and comprehensive skill of understanding a written text (Bowey, 2005). The idea behind the expectations is that reading is vital in modern society as from the Western society (Reini, 2010) to the developing countries as all consider reading as a way of communicating, help in learning and functioning well in any society. Therefore, any delay in developing reading is termed as reading difficulty (Reini, 2010).

The reading achievement for informing reading instruction is determined in different ways. One of such ways is the use of the Intelligence Quotient (IQ) tests (Grigorenko & Sternberg, 1998). Use of the IQ tests has been regarded by the educators and researchers like Reini (2010) as a conventional (static or traditional) method that assesses mainly cognitive abilities. Further, Grigorenko and Sternberg (1998) criticized use of the IQ test in the view that it measures abilities that have been developed in the past while ignoring the fact that reading capacity is affected by several factors including real learning abilities, the amount of time and kind of educational instruction, and parental support. As result, Grigorenko (2009) concludes that the IQ tests fail to reveal learning potential and cognitive development of diverse learners, and underestimate achievement level that a person might achieve with adequate environmental support (Jitendra & Kameenui, 1993; Swanson, 1995).

Educators and researchers came to realize use of dynamic teaching and assessment [DTA] in determining individual learner's achievement for devising appropriate and probably individualize instruction to help those look behind others at particular grade level. Popa and Păuc (2015) describe the DTA as one of the most promising practices in evaluating both learning potential and academic performance while putting into consideration the Vygotskian concepts of Socio-Cultural learning and zone of proximal development. Authors further describe dynamic approach as a method of teaching and learning assessment which emphasizes the power of the learner and the importance of the assistance that teachers or the more learned person offers to the learner to uncover his/her potentials in learning. Therefore, mediation process is a core element in the dynamic approach as the teacher or learned person acts as an intermediate between the learning obstacles and the learning stimulus [the content] (Feuerstein, 1980). Basically, DTA emphasize feedback in the process of teaching and learning as it makes it often understood as a response to intervention (RTI).

Dynamic approach practically benefits learners including children that have or would be considered as at risk of developing reading difficulty in learning (see Fuchs & Fuchs, 2008; Fuchs, Compton, Bouton, Caffrey & Hill, 2011; Kumburu, 2011). Exemplifying its effects in reading achievement, Kumburu (2011) found that over 85% of the children who were at risk of reading and writing difficulties able to significantly improve their reading and writing skills within a period of five weeks of the dynamic intervention conducted in two schools in Dar es Salaam - Tanzania between January 2010 and November 2010. Apart from being helpful to the at risk pupils, the DTA works well in learning situations where the teaching and learning resources are scarce and the class size is huge to an estimated number of over 70 children in a single room (Caffrey, Fuchs, & Fuchs, 2008). As the DTA works in both contexts (for the at risk children of developing reading difficulty and in large classes), Caffrey et al. (2008) confirm that DTA is a best alternative method in facilitating literacy acquisition than the traditional method that has for decades dominated the teaching of literacy skills with very little success. Importantly, Lidz (1991) view DTA as key in accurate prediction of future performance of the learners unlike the traditional method that seek to measure the amount of knowledge and skills the leaner has acquired.

Because of the prevailing situation in Tanzanian public primary schools particularly in Dodoma region where Mosha et al. (2015) regarded several districts in Dodoma region as disadvantaged because of their poor performance in primary school leaving examinations and reading tests, this study was designed to introduce the DTA and determine its effectiveness in addressing improving grade one and two pupils' reading achievement in selected public primary schools in Bahi and Kongwa districts.

# **METHODS AND PROCEDURES**

### **Research Design**

This study deployed experimental research design with pre-testing, teaching and post testing intervention administered to four selected schools in Dodoma region. The pretest-teach-retest or post test is the three triadic processes of the DTA (Cacchione, 2015). In practice, the intervention was conducted in that there was a pretest given to pupils who formed both groups-experimental and control groups in all the classes involved in the study to discover current level of pupils reading ability. A teaching time followed the pretest, then a similar test that is retest or post testing was given after the teaching to determine the impact of the DTA to pupils. The use of the experimental design was necessary for determining the efficacy of the DTA. Thus, the experimental group was subjected to special treatment for purposes of

comparison with a factor kept constant which was the control group (Ross & Morrison, 2004).

# **Study Area**

The study was conducted in Dodoma region in two district councils namely Kongwa and Bahi. The selection of these Districts was based on various reports from research indicated that they were among the lower performing districts in reading assessment conducted in the region through Early Grade Reading Assessment (EGRA) (Research Triangle Institute, 2013).

# **The Sample Selection**

# Selection of pupils

Before the implementation of the DTA to improve reading skills to grade one and two pupils, four schools were randomly selected, two Bahi and others from Kongwa Districts. Thereafter selection of pupils for the study was done in following way: Firstly, obtaining a total of 1,860 pupils (1,080 grade one and 780 grade two) stratified into boys and girls and randomized. Randomization was done by individual pupil picking a piece of paper from a pool of pieces labeled "YES and "NO". Each pupil who picked a piece of paper labeled YES formed an experimental group and those picked a paper labeled NO formed a control group. In all the four schools, 407 pupils (234 standard one, and 173 standard two) were selected to participate in the dynamic intervention.

# Selection of teachers

The selection of teachers was done purposively based on the fact that they taught in grade one and two. In the process, researchers obtained a total of 16 teachers (female 10, males 6) and 4 head teachers (3 males; 1 female). The head teachers were included in the study for the virtue of their positions as academic supervisors in their schools.

### The Study Procedures

# Pre Testing

Before the implementation of the intervention on DTA, both, the experimental and the control group were subjected to a pre-test to determine their potential ability in reading skills. Participants involved at pre-testing were: 111 pupils (55 boys; 56 girls) formed experimental group for grade one and 123 (53 boys; 70 girls). For grade two, the experimental group comprised of 102 pupils (50 boys; 52 girls and for the control group there were 71 pupils (36 boys; 35 girls). The pre-test comprised of: Letter knowledge; phonological tasks which include phonemic awareness (such as initial sound identification, phoneme blending, and syllable identification); word and sentence reading, and simple comprehension using pictures and texts for grade two only. The results for pre testing for grades one and two were analyzed quantitatively using SPSS package version 16 to determine their mean scores and standard deviation for each group. The results for grade one are presented in Table (2) and Table 3 for grade two.

# Dynamic Training

After the pre-testing, researchers in collaboration with the grade one and two teachers conducted the training in a form of lessons. Modeling was used as instructional method and each lesson lasted for 30 minutes. In each, two separate rooms were used for training reading skills (one for experimental and the other for control) for each class. Both classes received

same content and number of lessons per day except that the control groups received training using traditional method for the same period of time. After training session, the researcher and the teachers reflected together on the lesson taught for improving the instructions. Prior to teaching teachers were engaged in various activities including lesson planning, material development, and specification of the performance indicators. Lesson planning and development focused on the reading components and the level of previous reading skills attainment.

- (i) Letter knowledge: Training on letter knowledge focused on ensuring pupils develop competency in identifying and naming the Kiswahili alphabet without singing. The 24 Kiswahili letters were written and placed in front of the class and pupils were asked to name one after another individually and later in chorus. The learning sessions continued with mediation offered to individual pupil or in small groups (5-6 pupils). The teacher carried letters cards and used them for pupils to practice naming letters together with the teacher. The mediation process involved modeling letter naming by the teacher followed by pupils naming the modeled letter. Lastly, pupils with limited ability were closely followed and scaffolded by the teacher. Praising alerts (well done, "ok", "continue", "good" "what about....?" and so on) were used by the teacher to reinforce learning from one group to another.
- (ii) Letter-sound: While adhering to the National curriculum for the early grade, the training of letter- sound association involved the teacher sounding the letter first and then sounds it with the pupils before s/he left the exercise to be done by pupils with limited teacher's intervention.
- (iii) Phonemic tasks. In this component, pupils were trained on three main items: initial sound identification, phoneme blending, and syllable identification. To develop pupils with the ability to identify initial sounds of different things/objects, several pictures were presented to the pupil for him/her to identify the initial sound of the thing/object represented by the given picture. On phoneme blending, the pupil was engaged in blending or combining two or more sounds to form a syllable. The last drill was on syllable identification. The pupil was trained to have capacity in identifying the number of syllables in a word.
- (iv)Word reading. Training on word reading was done in the same way as it was done for syllable identification. The teacher would read the selected word(s) first while the pupils listened. The last stage was to ask the pupils to read the same words alone without the help of the teacher. Common words that were given to the pupils to read ranged from one-syllable word (e.g. be) to four-syllable word (e.g. "cherehani" –sewing machine)."
- (v) Sentence reading. The training on sentence reading followed the same procedure as it was in word reading. The teacher read first then read together with the pupils and lastly pupils read the same sentences without the help of the teacher. While pupils read the teacher would mediate by giving the encouraging words such as "go on "good", well tried
- (vi) Comprehension .Together with sentence reading grade two were given simple text to read for comprehension This component was administered to grade two only because they had already learned the decoding skills in grade one.

# Post Testing

After the four weeks of training, a post test was conducted to determine the impact of the intervention on reading ability using the DTA. All the four schools sat for the post test on the same day and same content with an addition of reading comprehension to grade two. The same components (letter knowledge, letter-sound association; initial sound identification

using pictures; phoneme blending; syllable identification; word reading; sentence reading and composition for grade two only) administered to them in the pre-testing were applied in the post testing. The procedure of the post testing was the same as it was in the pre-testing. However, in the post testing teachers who were not involved in the training were invited to administer the post tests to the experimental and to the control group for avoiding the "hallo" effect. The scoring was one for correct answer and zero for incorrect answer. The testing time was determined by the amount of items in the component for example reading composition had six sentences the testing took around 6-8 minutes.

#### Data Analysis

The data were analyzed using quantitatively techniques to determine the efficacy of DTA in improving reading competencies of the pupils considered at risk of developing reading difficulty. The repeated ANOVA was used to determine the mean scores differences between experimental and control groups for grade one and two. Secondly, the overall impact of the designed intervention was realized in the gain scores between pre- and post test. Lastly, results on teachers views regarding dynamic teaching of reading skills in early grades was qualitatively analyzed and presented in tables.

### Ethical Issues

One of the ethical issue observed during this study was that before the field experiment, research permission was solicited and secured from all the relevant authorities the University of Dodoma, Office of the Dodoma Regional Commissioner, and Kongwa and Bahi District Executive Directors for accessing individual schools. The other issue was that every pupil found in the school in the day of study group formation for study were involved in randomization. Third ethical consideration that was made is that name of the schools and pupils have been put anonymous to readers.

### THE RESULTS

### Demographic characteristics of pupils

Table 1 shows that more participants of the DTA were the grade one pupils than the grade two by 61 (15%) of the total population. However, in terms of gender there is no significant variation between boys and girls in both groups participated in the DTA intervention. As indicated in table 1, a total of 111 grade one and 102 grade two pupils participated in experimental group while 123 grade one and 71 grade two pupils were in control groups.

School	Grades	Total	Ex	perimental	[	Control			
			М	F	Т	Μ	F	Т	
А	ONE	30	10	6	16	5	9	14	
В	ONE	68	15	24	39	8	21	29	
С	ONE	45	13	9	22	10	13	23	
D	ONE	91	17	17	34	30	27	57	
	TOTAL	234	55	56	111	53	70	123	
А	TWO	24	6	7	13	6	5	11	
В	TWO	47	18	16	34	6	7	13	
С	TWO	45	11	12	23	12	10	22	
D	TWO	57	15	17	32	12	13	25	
	Total	173	50	52	102	36	35	71	

Table 1 Pupils participated in the intervention

Source: Fieldwork (2016).

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## The results for pre-and post testing for grade one

This section presents the results of both pre-testing and post-testing for the grade one and two (see table 2 and 3) for determining the impact that DTA has on pupil's reading ability. The overall analysis was done to determine mean scores differences between pre-and post testing following the implementation of DTA and traditional approach in to the experimental and control groups respectively. Tables 2 and 3 present the mean score differences of the pre-and post testing according to schools and class level for clarity and preciseness for determining the impact of DTA on improving reading ability to pupils.

G 1	0	SCHOOL B		SCHOOL A		SCHOOL C		SCHOOL D					
Scale	Group	Ν	mean	SD	Ν	mean	SD	Ν	mean	SD	Ν	mean	SD
Prelet	experimental	32	6.81	8.31	11	8.09	9.08	23	7.57	5.27	30	6.03	4.42
	control	12	3.75	6.70	8	6.75	6.76	22	9.59	7.71	24	5.62	5.46
	Total	44	5.98	7.95	19	7.53	8.00	45	8.56	6.58	54	5.85	4.87
Polet	experimental	30	18.50	8.82	11	24.0	.00	19	18.74	7.64	32	15.1	8.17
	control	11	3.00	5.33	11	7.82	7.39	19	7.26	6.56	24	6.58	5.67
	Total	41	14.34	10.53	22	15.9	9.72	38	13.00	9.12	56	11.5	8.31
Preletsou	experimental	32	1.38	2.09	11	3.64	6.09	23	5.17	3.34	31	3.71	2.57
	control	12	.92	1.93	8	.12	.35	22	4.09	4.14	24	4.38	3.50
	Total	44	1.25	2.04	19	2.16	4.88	45	4.64	3.75	55	4.00	3.00
Poletsou	experimental	30	18.53	8.84	11	23.9	.30	19	14.00	9.39	28	15.3	8.79
	control	11	3.00	5.33	11	7.27	6.37	19	6.26	5.62	21	7.43	5.78
	Total	41	14.37	10.60	22	15.6	9.58	38	10.13	8.58	49	11.9	8.52
Preinitial	experimental	32	1.66	1.26	11	1.36	1.29	23	2.48	1.34	32	2.62	.94
	control	12	1.42	1.38	8	2.00	1.07	22	2.77	1.57	24	2.88	.61
	Total	44	1.59	1.28	19	1.63	1.21	45	2.62	1.45	56	2.73	.82
Poinitial	experimental	30	3.63	1.75	11	4.82	.41	19	3.79	1.65	28	4.21	1.17
	control	11	2.27	1.90	11	2.00	1.27	19	2.53	1.74	21	2.95	1.20
	Total	41	3.27	1.87	22	3.41	1.71	38	3.16	1.79	49	3.67	1.33
Presilabi	experimental	32	.94	1.63	11	2.45	2.42	23	1.04	1.92	32	2.12	1.54
	control	12	2.08	2.35	8	3.12	2.59	22	2.36	2.36	24	1.75	1.98
	Total	44	1.25	1.89	19	2.74	2.45	45	1.69	2.22	56	1.96	1.74
Posilabi	experimental	30	3.80	1.45	11	4.91	.30	19	4.58	1.07	32	4.03	1.40
	control	11	2.00	1.00	11	3.55	2.12	18	1.22	2.10	24	2.79	1.69
	Total	41	3.32	1.56	22	4.23	1.63	37	2.95	2.36	56	3.50	1.64
Preworid	experimental	32	3.09	2.05	11	3.45	2.3	23	39.43	27.7	31	2.58	1.15
	control	12	4.17	1.59	8	4.88	.35	22	42.68	24.8	24	2.83	1.17
	Total	44	3.39	1.98	19	4.05	1.87	45	41.02	26.0	55	2.69	1.15
Poworid	experimental	30	4.30	1.37	11	5.00	.00	23	3.87	1.60	28	4.57	1.10
	control	11	3.64	2.01	11	4.82	.41	22	4.23	1.51	24	3.71	1.30
	Total	41	4.12	1.57	22	4.91	.29	45	4.04	1.57	52	4.17	1.26
Preserid	experimental	32	3.59	3.11	11	4.00	2.41	19	4.74	.93	32	2.59	1.48
	control	12	4.75	2.60	8	4.75	2.19	18	3.44	2.07	24	2.00	1.87
	Total	44	3.91	3.0	19	4.32	2.29	37	4.11	1.66	56	2.34	1.67
Poserid	experimental	30	4.10	2.44	11	6.00	.00	23	4.26	2.42	32	4.31	1.23
	control	11	2.91	2.17	11	5.27	1.42	22	4.77	2.16	24	3.12	2.09
	Total	41	3.78	2.40	22	5.64	1.05	45	4.51	2.28	56	3.80	1.74
Precom	experimental	32	2.50	1.50	11	1.73	1.27	19	5.63	1.38	30	2.77	1.36
	control	12	2.83	1.47	8	2.75	.89	18	4.56	2.28	24	2.50	1.35
	Total	44	2.59	1.48	19	2.16	1.21	37	5.11	1.93	54	2.65	1.35
Pocom	experimental	30	3.83	1.02	11	4.36	1.03	23	2.74	1.05	32	4.16	1.27
	control	11	2.91	1.87	11	3.18	.87	22	2.86	1.25	24	3.08	1.44
	Total	41	3.59	1.34	22	3.77	1.10	45	2.80	1.14	56	3.70	1.44

#### Table 2. Results for pre- and post testing for both groups

Source: Fieldwork (2016)

Overall analysis of the mean scores differences for the pre-and post testing in all classes (grade one and two) in the four schools participated in this study indicates results at post test the experimental group significantly over performed the control group in all the scales tested. For example, in letter knowledge while the experimental group scored 13.69 (SD 4.1) N=16 in school A ; 13.0 (SD 7.6) N= 35 in school B; 16.0 (SD 7.6) N=21 in school C and 17.0 (SD 7.4) N= 34 in school D. Meanwhile, the same items were used to test pupils in the control groups and their scores indicate poor performance compared to the experimental group. The same pattern of performance could be seen for post initial sound identification, post syllable identification and word reading. Therefore, test for significance showed that the experimental group performed higher than the control group in all the schools for scales (p =.000-.002) except for syllable identification at school B (p=.042); school A (p=.009) and school C (p=.029).

On the other hand, analysis on reading skills was done by comparing in terms of mean differences and significance level. For grade one, the significance level of the mean differences of standard one in the four schools involved in the study are presented in Table 3. The results as presented in table 3 indicates that the means differences were significantly higher for experimental/treatment group across schools. For letter- sound knowledge, the mean differences was significant between p=.000 to p=.002. Further, DTA had significant effect on letter knowledge and letter-sound knowledge indicating 100%.

Specifically, the effect of the DTA for initial sound identification was significant for school C and D and not for school A and B. In addition, in word reading, analysis of the test scores following the implementation of the DTA was significant for schools A and C and not for schools A and D indicating significance level being 50% for the word reading. However, the impact of the DTA on syllable identification was the least with performance of only one school found significant compared to other schools participated in the testing on this component (details are presented in table 3).

Scale item	School B		School A		School C		School D			
	F	Sig.	F	Sig.	F	Sig.	F	Sig.		
Pre letkn	.564	.456	.657	.424	.169	.683	.373	.543		
post letkn	11.021	.002	19.027	.000	36.259	.000	41.980	.000		
Preletsou	.868	.355	.003	.958	.687	.412	3.330	.071		
Postletsou	10.824	.002	35.813	.000	30.748	.000	39.837	.000		
Preinitial	.008	.929	2.224	.147	.009	.927	1.848	.177		
Postinitial	10.641	.002	.460	.503	32.522	.000	33.794	.000		
Presyll	.033	.857	20.962	.000	.521	.474	.008	.927		
Postsyll	4.307	.042	.925	.009	5.245	.027	72.449	.000		
pre word read	.269	.606	22.620	.000	.650	.424	2.820	.097		
post word read	7.092	.010	19.027	.000	21.327	.000	4.781	.032		

 Table 3. Mean differences and significance level

Source: Fieldwork (2016)

### **Results for Grade two**

Table 4 presents the grade two performances for the pre- and post testing results for the experimental and the control groups. The results reveal that, at pre testing both groups performed equally in all the scales tested (letter knowledge; letter sound association; initial sound identification; syllable counting; word and sentence reading and comprehension). At

the post test, the results indicate that the mean scores were higher for the experimental group than for the control group in most of the scales tested. Test for significance shows that the experimental group performed higher than the control group (see table 4). Table 4 indicates further that the mean differences were higher in letter knowledge and letter sound knowledge for the experimental group as they performed higher than the control group. Taking an example of the performance of school B, analysis of the results depicts that while the experimental group scored 18.50 (SD 8.82) N=30 in letter knowledge, the control group scored 24.0 (SD .00) N= 11 and the control group scored 7.82 (SD 7.39) N= 11 almost one-third of the score of the experimental group.

The same pattern of performance is observed in school C as the experimental group scored 18.74 (SD 7.64) N=19 while the control group scored 7.26 (SD 6.56) N= 19 in the same scale. Again, while the experimental group scored 23.9 (SD .30) N=11 in letter sound knowledge in school A, the control group scored 7.27 (SD 6.23) N=11 in the same scale. Further, in school B while the experimental group scored 18.53 (SD 8.84) N=30 in letter knowledge, the control group scored 3.00 (SD 5.33) N=11 in the same scale. Also in school D while the experimental scored 15.1 (SD 8.79) N= 28, the control group scored 7.43 (SD 5.67) N= 21 in the same scale almost one-third of the experimental score. The same pattern was observed in initial sound and syllable identification, word and sentence reading although, the differences in some scales e.g. initial sound identification in school B and C was not so high (experimental 3.13 (SD1.75) N=30; control 2.27 (SD 1.90) N=11 and (experimental 3.79 (SD 1.65) N=19; control 2.53 (SD 1.74) N=19), the experimental group over performed the control group in all the scales in all the schools participated in the DTA intervention.

Scale Item	school B		school A		school C		school D		
	F	Sig.	F	Sig.	F	Sig.	F	Sig.	
Pre letkn	1.305	.260	.124	.729	.001	.970	.092	.762	
post letkn	29.720	.000	52.789	.000	15.298	.000	19.139	.000	
Preletsou	.436	.512	2.614	.124	.937	.338	.661	.420	
Postletsou	29.708	.000	75.155	.000	9.469	.004	12.535	.001	
Preinitial	.300	.587	1.299	.270	.458	.502	1.281	.263	
Postinitial	4.643	.037	49.536	.000	5.252	.028	13.677	.001	
Presilabi	3.370	.073	.335	.570	.248	.621	.635	.429	
Postsilabi	14.365	.001	4.482	.047	58.787	.000	8.965	.004	
Pre word read	.985	.327	.835	.373	2.174	.148	.646	.425	
Post word read	9.075	.005	14.694	.001	11.457	.002	6.702	.013	
Preserid	1.671	.203	1.084	.312	.264	.610	1.767	.189	
Poserid	10.487	.002	17.500	.000	9.369	.004	7.080	.010	
Precom read	.435	.513	1.829	.194	.278	.601	.517	.475	
Poscom	14.920	.000	37.373	.000	4.120	.049	8.694	.005	

Table . 5 Mean differences and significance level

Source: Fieldwork (2016).

Researchers determined significance levels of the mean scores between the two groups (experimental and the control group). The significance level of the mean differences of the grade two of the four schools involved in the study are presented in Table 5. The means differences were significantly higher for experimental/treatment group across schools. For

letter knowledge and letter –sound knowledge, the mean differences was significant between (p=.000) for all the school and the scales tested. Further, the main effect of the DTA in terms of the scales indicates that for letter knowledge and letter-sound knowledge was 100% significant. The main effects of DTA for initial sound identification was significant for school A and D and not for school B (p=.037) and C (p=.028). For syllable identification all the schools performed significantly accept for School A (p=.042). For word reading the main effect of the DTA was significant for schools A, B and C and not for schools D (p=.010). The same pattern was observed for sentence reading. For reading comprehension all the four schools performed significantly (p=.000) and D. However, the main effects of the DTA for reading comprehension for school C was rather low (p=.049).

# DISCUSSION

The objective of this study was to introduce the use of DTA in teaching and learning to grade one and two pupils particularly those considered at risk of developing reading difficult. It was specifically meant to determine its impact on improving reading skills through assessment and instruction procedures. The results demonstrate that the Dynamic Teaching and Assessment had positive impact in teaching and learning of basic literacy skills to learners. The pre-test and post-test results of all the schools indicate positive gain scores in terms of mean differences and standard deviation in all most all test items. The positive gain score obtained through the ANOVA analysis technique indicates improved reading abilities of the pupils of the four public schools.

Just as this study found improvement in pupils' reading ability, Birjandi et al. (2013), and Naeni and Duvall (2012) report similar outcomes that dynamic assessment had a significant effect on promoting the student's achievement in reading. They further revealed as it was revealed in the four schools in Kongwa and Bahi district councils that pupils who benefited from dynamic assessment had a higher gain score of reading compared with the pupils who did not experience the mediated system. Further, the study has found that DTA is an appropriate teaching and learning strategy in situations that Tanzanian pupils and teachers experience. Such situations include scarcity of the teaching and learning resources (Kumburu, 2011).

The concept of ZPD is important to be determined and facilitated in class for pupils to develop to their fullest possible capacity. In the process of developing pupils involved in the DTA intervention in Kongwa and Bahi, active teaching and learning process was at the centre of pupils and teachers that helped pupils' cognitive functions active and able to perform beyond the pretest scores. Individual and small groups mediation made pupils improve their reading performance. Reading practices mainly letter naming done at individual and group level by the pupils and in support of the teachers together with the use of instructional materials, developed pupils and teachers who were less informed of the power of DTA to what Vygotsky (1986) described as higher forms of consciousness.

# CONCLUSION AND RECOMMENDATIONS

The study findings indicate that DTA has positively benefited both pupils and teachers. On the side of the teacher, DTA experimental study has developed teachers with the capacity that effective teaching involves understanding pupil's level of learning development so that learner's needs and interests are met easily through instruction. Therefore, pretesting pupils become part of the teacher's plans. The study concludes that DTA was introduced to teachers and pupils as an additional strategy in situations where learners and classroom conditions are considered difficult to achieve better. Based on findings indicating positive impacts of the implementation of the DTA in grade one and two to the pupils considered potential at developing reading risk, the study draws the following recommendations; firstly, it is important for instructors and curriculum designers to consider and use the DTA as an initiative to improve instruction for better learning outcomes in reading. Secondly, in the course of classroom instruction, teachers should use the DTA to diagnose pupils learning achievement. After diagnosis, teachers would be able to tailor instruction based on real learning needs of the pupils.

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