International Journal of Innovative Mathematics, Statistics & Energy Policies
12(4):1-5, Oct-Dec., 2024

 www.seahipublications.org **ISSN: 2467-852X**

DOI: 10.5281/zenodo.13955699

Fie Draft Board: A Game Designed With The Use Of Multiplication Operator For The Upper Basic Education Learner

Foluke Eze[1] & Aprebo Fiepre Clever Yenogha[2]

[1,2]Department of Science Education (Mathematics Unit)
Faculty of Education
Federal University Otuoke, Bayelsa State, Nigeria

ABSTRACT
The game is specifically designed for the Upper Basics. This is purposefully done to replace there wasteful playing periods with learning-in-playing. The operational symbol used here is the multiplication sign. This sign is chosen for the Upper Basics with the assumption that the learner must have leant from the volume 1 of Fie Draft Board that entails the use of addition sign. The achievable goals in this game are: the child's time is not wasted in playing; the child will improve on his multiplication capability; the game will help develop the learner's concentration ability; it will help consolidate the identification of numerals and will as well learn the trait of tolerance among his peers. The early child's proper foundation is the bedrock of his higher educational footing. The study therefore recommend this game to all upper basics pupils to achieve the educational goals highlighted above.
Keywords: Draft Board, Game, Computation Column, Numbers' Pool, Answer Column

INTRODUCTION

The draft board is a rectangular thick paper board that had been divided into three main areas. Board game are tabletop games that typically use pieces that are moved or placed on a pre-marked boards (playing surface) and often include elements of table, card, role-playing and miniature games as well.(Winkipedia,2023). These areas are the question area, the Number Pool area and the answer column area. The question area is further divided into five rows and each row appears in the following form:

N X N = ANS

The letter N represents any number the player may wish to pick to set his question; while ANS represents the answer corresponding to the question asked. So the game involves three variables; the N;N and ANS The Number Pool is where all numbers to be placed on the question areas are kept. The numbers are arranged in the following intervals: 0 – 9; 10 - 19; 20 - 29; 30 - 39; 40 - 49 and 50 - 59. And the answer column area is where the numbers representing all answers to the questions asked. The multiplication operator in this game is being represented with the times sign (X). Game to Frankie, Martin, Kelvin, Lisa, Theresa and Eva, (2021) has promoted positive significant correlations between the level of enjoyment and frequency of question-attempt in relation to the change of cognitive knowledge and interpersonal social interaction. Students learning through game is influenced by the content of the game, the format of the question, the instructional strategies and the motivation for participation,(Siu, and

Kai, 2021). Hoa (2021), opined that teaching with games help increase student participation, foster social and emotional learning and motivate students to take risks. An investigation carried out in Deakin University on the use of game in learning revealed that 75% of students engaged agreed that the use of games in learning helps to make complex ideas and topics more interesting and meaningful; helps students to be independent and engage co-learners; provide opportunities to practice problem solving; encourage learning that stimulates imagination and collaborate on shared goals, (NSW Government, 2023). The use of games in teaching and learning Mathematics in the lower basic has the capability of motivating and enabling students to practice, and understand mathematics, and suppress anxiety, (Orim, and Ekweme, 2011). A systematic review of literature on the effect of games and stimulations on higher education'' uncovered that deep learning, critical thinking, scientific reasoning, action-directed learning, decision-making, spatial abilities and problem solving are some of the beneficial effects to the learner (Dimitrios and Agoritsa (2017). In a team work of Adipat, Laksana, Busayanon, Asawasowan and Adipat (2021) confirmed their investigation that the use of game in teaching and learning brings and promotes student motivation and Encouragement, quick feedback and progress record, creativity and lateral thinking, risk-taking and experimentation, and preparation for feature jobs.

Having looked at the works of the various contributors on the use of games in teaching and learning, the paper now shows the six stages of the game as the complete model designed for the user; the mode of playing and the scoring pattern.

The Complete Model Design

This shows the pattern of the game board and the six stages that the players will engage themselves while learning the lower form of the multiplication; which entails numbers from 0-9; 10-29; 20-29; 30-39; 40-49 and 50-59.

Table 1: Computing numbers from 0 to 9 with multiplication operator

COMPUTATION COLUMN

N	X	N	=	ANS	
N	X	N	=	ANS	
N	X	N	=	ANS	
N	X	N	=	ANS	
N	X	N	=	ANS	
LELVEL 1: 0 – 9					
NUMBERS' POOL					
0	1	2	3	4	
5	6	7	8	9	
Each number will be duplicated three times, giving a total number of thirty pieces of numbers.					

ANSWER COLUMN

0	1	2	3	4
5	6	7	8	9
10	12	14	15	16
18	20	21	24	25
27	28	30	32	35
36	38	40	42	45
48	49	54	56	63
64	72	81		

Table 2: Computing numbers from 10 to 19 with multiplication operator

COMPUTATION COLUMN						ANSWER COLUMN				
N	X	N	=	ANS		100	110	120	121	130
N	X	N	=	ANS		132	140	143	144	150
N	X	N	=	ANS		154	156	160	165	168
N	X	N	=	ANS		169	170	176	180	182
N	X	N	=	ANS		187	190	192	195	196
LELVEL 2: 10 – 19						198	204	208	209	210
NUMBERS' POOL						216	221	224	225	228
10	11	12	13	14		234	238	240	247	252
15	16	17	18	19		255	256	266	270	272
Each number will be duplicated three times, giving a total number of thirty pieces of numbers.						285	288	289	304	306
						323	324	342	361	

Table 3: Computing numbers from 20 to 29 with multiplication operator

COMPUTATION COLUMN						ANSWER COLUMN				
N	X	N	=	ANS		400	420	440	441	460
N	X	N	=	ANS		462	480	483	484	500
N	X	N	=	ANS		504	506	520	525	529
N	X	N	=	ANS		528	540	546	550	552
N	X	N	=	ANS		560	567	572	575	576
LELVEL 3: 20 – 29						580	588	594	598	600
NUMBERS' POOL						609	616	621	624	625
20	21	22	23	24		638	650	644	648	667
25	26	27	28	29		672	675	676	696	700
Each number will be duplicated three times, giving a total number of thirty pieces of numbers.						702	725	728	729	754
						756	783	784	812	841

Table 4: Computing numbers from 30 to 39 with multiplication operator

COMPUTATION COLUMN						ANSWER COLUMN				
N	X	N	=	ANS		900	930	960	961	990
N	X	N	=	ANS		992	1020	1023	1024	1050
N	X	N	=	ANS		1054	1056	1080	1085	1088
N	X	N	=	ANS		1089	1110	1116	1120	1122
N	X	N	=	ANS		1140	1147	1152	1155	1156
LELVEL 4: 30 – 39						1170	1178	1184	1188	1190
NUMBERS' POOL						1209	1216	1221	1224	1225
30	31	32	33	34		1248	1254	1258	1260	1287
35	36	37	38	39		1292	1295	1296	1326	1330
Each number will be duplicated three times, giving a total number of thirty pieces of numbers.						1332	1365	1368	1369	1404
						1406	1443	1444	1482	1521

Table 5: Computing numbers from 40 to 49 with multiplication operator

COMPUTATION COLUMN						ANSWER COLUMN				
N	X	N	=	ANS		1600	1640	1680	1681	1720
N	X	N	=	ANS		1722	1760	1763	1764	1800
N	X	N	=	ANS		1804	1806	1840	1845	1848
N	X	N	=	ANS		1849	1880	1886	1890	1892
N	X	N	=	ANS		1920	1927	1932	1935	1936
LELVEL 4: 40 – 49						1960	1968	1974	1978	1980
NUMBERS' POOL						2009	2016	2021	2024	2025
40	41	42	43	44		2058	2064	2068	2070	2107
45	46	47	48	49		2112	2115	2116	2156	2160
Each number will be duplicated three times, giving a total number of thirty pieces of numbers.						2162	2205	2208	2209	2254
						2256	2303	2304	2352	2401

Table 6: Computing numbers from 50 to 59 with multiplication operator

COMPUTATION COLUMN						ANSWER COLUMN				
N	X	N	=	ANS		2500	2550	2650	2652	2601
N	X	N	=	ANS		2700	2703	2704	2750	2754
N	X	N	=	ANS		2756	2800	2805	2808	2809
N	X	N	=	ANS		2850	2856	2860	2862	2870
N	X	N	=	ANS		2900	2907	2912	2915	2916
LELVEL 6: 50 – 59						2950	2958	2964	2968	3009
NUMBERS' POOL						3016	3021	3024	3025	3068
50	51	52	53	54		3074	3078	3080	3120	3127
55	56	57	58	59		3132	3135	3136	3186	3190
Each number will be duplicated three times, giving a total number of thirty pieces of numbers.						3192	3245	3248	3249	3304
						3306	3363	3364	3422	3481

Mode of Playing

The game is meant for two players at a time with a recorder who doubles as a time keeper. The first player will pick two numbers from the number pool and place them on the first two N cells. The second player will then pick the answer from the answer pool and place it on the ANS cell. The first player goes on to do the placement of numbers on the rest of the N cells and the second player will also pick the answers from the answer pool and place on the ANS cells accordingly. At the end of the first round the recorder will announce the result and the game continues until the six series are completed.

Scoring Pattern

Each correct answer is awarded 1mark, so the first round is over 5marks, the second is over 10marks, the third is over 15 marks, the forth is over 20marks, the fifth is over 25 marks and the six will be over 30marks.

CONCLUSION

Most of the learners in this dispensation are not interested in reading their books particularly at the basic education level but then they have not stopped playing. It is with this playing habit that had informed the design of this game as a medium of learning either in and out of the classroom (Sager,2023). Besides achieving the main targeted objective of the paper (learner improvement on multiplication), it also has an advantage of improving the learning habit of the learner unconsciously and well as promoting fun (Ubongo, 2023). The game series is therefore recommended to all basic education level students.

REFERENCES

Adipat Surattana, Laksana Kittisak, Busayanon Kanrance, Asawasowan Alongkorn and Adipat Boonlit (2021). Engaging Students in the Learning Process with Games-based Learning:The Fundamental Concepts. International Journal of Technology in Education;4(3),542-552. https//doi.org/10.46328/ijte.169

Dimitrios Vlachopoulos and Agoritsa Makri (2017). The effect of games and stimulations on higher education: a systematic literature review. International Journal of Educational Technology in Higher Education. SpringerOpen.

Frankie,Y.W., Martin Lau, Kelvin Wan, Lisa law, Theresa Kwong and Eva,Y.W. Wong (2021). Promoting Students' global Perspectives Through a Gamified e-Learning Plantform. Frontiers, https//www.Frontiers.org.

Hoa P.Nguyen, (2021).How to use Gameplay to Enhance Classroom Learning.Game-Based Learning. Edutopia, https//www.edutopia.org' article.

NSW Government,(2023).Teaching and Learning with games. Digital Citizenship. NSW Department of Education; https//www.citizenship.org.

Orim, R.E. and Ekweme, C.O. (2011). The Roles of Games in Teaching and Learning of Mathematics in Junior Secondary Schools. Global Journal of Educational Research; vol 10, No.2,121-124.www.globaljournalseries.com info@globaljournalseries.com.

Sager Jeanne(2023). !0 benefits of Classroom Games for Kids(And Teachers Too). TeachStarter, part of tes. https.//www.teachstarter.om>blog

Siu,Yin Cheuny,Kai, Yin Nig;,(2021). Application of the Education Game to Enhance Student Learning. Frontiers, https//www.Frontiers.org.

Ubongo(2023). Educational games. Edutainment & partnerships to transform the lives of 500 million kids in Africa; https.//www.ubongo.org

Wikipedia (2023). Board game; Article Talk. https://en.rn.wikipedia. Org.wiki