Effectiveness of Modified Individual Learning Monitoring Plan on Science Achievement and Student Engagement Among the Grade 11 Academically Challenged Learners

Kathleen Anne F. Faderogao, Corcuera National High School, Philippines
Reynaldo P. Ramos, Technological University of the Philippines, Philippines

The Asian Conference on Education & International Development 2023
Official Conference Proceedings

Abstract
Monitoring student's progress is one of the key roles of a teacher because the goal of education is the academic achievement of the learners. With this, the researcher devised a modified individual learning monitoring plan patterned to that of the DepEd to assess its effectiveness in student engagement and academic achievement among the Grade 11 academically challenged learners in science. This study is supported by progress monitoring theory, goal theory, theory of zone of proximal development, and expectancy-value theory. The study was conducted to determine if there is significant difference between the student engagement and science achievement of the experimental and control group before and after the use of Modified Individual Learning Monitoring Plan (MILMP). The researcher used non-equivalent quasi-experimental research design where control and experimental groups were selected purposively using the criteria; 40%- previous science grade, 20%- previous science teachers interview and 40%- for the 1st quarter grades in earth and life sciences. Data were collected using survey questionnaire for student engagement and 50-item achievement test and focus group discussion. The statistical tool used are percentage, weighted mean, T-Test, Wilcoxon signed rank Test and Mann-Whitney U-test. Data reveals that the level of science engagement and achievement of the experimental group increased after the use of MILMP than to that of the control group. Overall, the use of MILMP is effective in improving the science achievement and student engagement of the academically challenged learners because of Immediate feedbacking and communication to parents and learners, active involvement of the parents and specific learning objective. The MILMP is easy to use and does not consume so much time, effort, and money on the part of the parents and learners.

Keywords: Individual Monitoring Plan, Response-to-Intervention, Progress Monitoring

Introduction

Due to the increasing demands to maintain the quality of education amidst the time of pandemic DepEd's goal "Sulong Edukalidad", poses a great challenge to educators to make every effort to reach out to the school children and give the best quality of education they can offer for them to learn the necessary competencies even if they are out of the campus or stay at home. Learners have full control of their time and learning because they have the alternative distance learning modality (modular print) wherein, they were just given modules, a weekly home learning plan, and a schedule every day on what subjects they will have for that specific time of the day. The problem faced by the teachers is that a lot of students were having backlogs in the required outputs and written outputs. Some just pass empty activity sheets and summative tests, some do not communicate with the teacher even if he is being reached out through calls and chats, and some copy answers from the internet or from their classmates. The low summative and performance results were evidence that these learners may be having a hard time in the distance modality. These problems faced in the teaching field inspired the researcher to develop a Modified Individual Learning Monitoring Plan (MILMP) to monitor the struggling learner's academic progress and improve their science achievement.

As cited in the work of Steele (2019), "there is a need for teachers to be 'thermostats, not thermometers'" meaning the teachers should not just assess the learning but most importantly make changes based on the status and needs of the learners identified. It is supported by the Work of Victoria (2019), Dolin et al. (2019), and Torres (2019) that teachers use information from summative and formative assessments and assess the effectiveness of teaching and make improvements in teaching styles. As the teachers identify learners who need academic support, they may provide additional assistance and constantly monitor the growth of the learners providing them feedback on their growth so that they can change themselves and regulate their own learning. Through this, it will be more predictive of the achievement of the targeted goal. Although, this could take more of the teacher's time and effort, constant monitoring of the improvement of the learners will let the learners feel that they are cared for and ensured that no one is left behind. Educators should also ensure mastery of necessary competencies before going to the next to prevent premature presentation of ideas by monitoring learners closely. As the teacher identifies the academic need of the learner and vulnerability, timely remediation must be done. Some of the results of closely monitored learners were being motivated, having high-quality work, having to learn goals as their top priority, and being self-governing thinkers. (Harrell et al., 2018, Gray & Toms, 2018). Wijngaards-de Meij & Merx (2018) presents the idea that large instructional advantages are attained when the curriculum, the instruction, and the measures of assessing students' progress are aligned. DM-CI-2020-00162 Urges the teachers to use the DepEd's Individual Monitoring plan, for students after assessing the result of their summative and formative assessment who shows learning gaps or difficulty in the learning areas assessed.

From the Individual Learning Monitoring Plan (ILMP) implemented by DepEd, the researcher added some research-based elements which were not included in the present ILMP to fully ensure the learning progress of the students such specific learning objective or goal, feedback method, date of giving feedback, problems meet, solutions made, signatures of parents, learners, and teachers. The MILMP will serve as a document for the socio-economic status of the learner, interventions made, and the problems meet during the intervention as well as how the learner responds to the interventions made. The plan indicated in the MILMP will be changed after the learner was assessed after making interventions. There was also

limited study on how effective this tool is since it is new in the teaching field. It is in this cause that the researcher was inspired to test the effectiveness the of Modified Individual Learning Monitoring Plan (MILMP) to the science achievement and engagement of the grade 11 academically challenged learners.

Theoretical framework

This study was anchored in the Progress Monitoring theory by MacGregor, Ormerod, and Chronicle which states that a problem-solver seeks to minimize the gap between the problem's recent or present state and the goal state. If he assesses that the problem-solving methods used do not help for coming up to the solution, there he will consider and use other alternative approaches. This theory is ruled by assessing the difference between the current state and the goal state (Alaidaros, Omar, & Romli, 2018). Another theory that supports this study is the Achievement Goal Theory. It states that goal acceptance, commitment, goal difficulty, and specificity as well as feedback are important in successful achievement of something. Also, if the person is committed to the goal and makes it as intrinsic motivation, he will positively achieve his goals (Bardach et al., 2020, Borovoi et al., 2020). Another is the Vygotsky's Theory of the Zone of Proximal Development. This theory tells that support is given to the learner by teachers or peers until it is slowly removed if the learner is gauged that he can already solve problems on his own (Lasmawan & Budiarta, 2020). Lastly, the Expectancy Value Theory by Wigfield & Eccles's (2020) supports this study for it states that when one has high expectancy for success, one will believe they can perform a task well.

Methods

In this study, a non-equivalent group quasi-experimental research approach was utilized. Similar to a true experiment, a Quasi-experimental design seeks to establish a cause-and-effect relationship between a dependent and independent variable or the outcome after an intervention. The difference between this from a true experiment is that it does not use randomization. The non-equivalent type of a quasi-experimental design uses groups that are similar, but it does not follow randomization in selecting participants (Miller, Smith, & Pugatch, 2019; Rogers & Révész, 2020). The participants were purposively selected using the given criteria; 40% previous science grades in junior high school, 20% previous science teacher's assessment interview, and 40% in the first quarter grade in earth and a life science subject for the first quarter. The 10 students at the bottom were selected in both sections and assigned as control and experimental group. This was conducted for Grade 11 students under the HUMSS strand of Corcuera National High School during the second quarter of the first semester of the school year 2021-2022, from November- January.

A 50-item multiple-type test was devised by the researcher to determine the science achievement of the learners. It was validated and pilot tested before use. To test the reliability of the instrument, Cronbach's Alpha was utilized. The result was .840, meaning the test items had a high internal consistency and reliability. A survey questionnaire for student engagement adopted from the work of Reeve and Tseng (2011) was utilized to determine the level of engagement of the learners in science. An online focus group discussion (FGD) was organized to gather the parent's feedback on the use of MILMP and validate the result of the study. In using the MILMP, the researcher first accomplished MILMP highlighting the need and competency the learner needs to master, the specific objective the teacher wants to achieve, the interventions to make, the schedule of monitoring, and the method and date of giving feedback. Then through home visits, the researcher explained the MILMP to both the

parents and learners. Monitoring approaches such as home visitation, monitoring the learners via messenger, and having phone calls with parents were oriented to both the parents and the learners. After the parents and learners agreed with the plan, they affixed their signatures on it as evidence that they will do their part in making the plan successful. A copy of MILMP together with a weekly home learning plan was given to each parent and learner for them to be guided on what to do in the absence of the teacher. The researcher monitored the learner on the specified date in the MILMP and then gave immediate feedback after the outputs were checked either through home visits or messenger chat. The schedule given for accomplishing their modules was every Saturday to give way for the regular modules they have in 2nd quarter. After giving intervention with the use of MILMP, a post-test was employed to assess their learning after the use of MILMP. For the control group, the monitoring approach was just traditional monitoring through messenger chat specially if the learner failed to pass the output on the scheduled time.

Table 1: Comparison of Monitoring Approach between the use of MILMP and the C onventional Monitoring

Use of MILMP	Conventional Monitoring
Home visitation **Messenger Chat** **Phone Calls**	**Messenger Chat**

Results and Discussion

Table 2 shows that the level of engagement in science of the experimental group before the use of MILMP (M = 2.91, SD = 0.47) is average while after the use (M = 1.98, SD = 0.43) is high. This result indicates that before the use of MILMP in the experimental group, they have average level of engagement meaning, the students just do the school task for compliance. However, after the use of MILMP, the students' engagement became high.

Table 2: Level of engagement in Science Learning before and after the use of MILMP for Experimental Group

Statemant	BEFORE				AFTER				MILMP			
	Mean	Std. Deviation	Rank	Description	Mean	Std. Deviation	Rank	Description	WM	Std. Deviation	Rank	Description
SE1	2.9	0.876	8.00	A	2.2	0.919	5.50	H	2.55	0.945	6.50	H
SE2	3.2	0.632	3.50	A	2.7	0.823	2.00	A	2.95	0.759	2.00	A
SE3	3.3	0.823	2.00	A	2.3	0.823	3.50	H	2.8	0.951	3.00	A
SE4	3.5	0.85	1.00	L	2.9	0.738	1.00	A	3.2	0.834	1.00	A
SE5	2.5	0.972	17.00	H	1.4	0.516	16.50	VH	1.95	0.945	17.00	H
SE6	2.6	0.843	16.00	A	1.7	0.483	13.00	VH	2.15	0.813	14.00	H
SE7	2.8	0.789	11.00	A	1.4	0.516	16.50	VH	2.1	0.968	15.50	H
SE8	2.8	0.919	11.00	A	1.7	0.483	13.00	VH	2.25	0.91	12.00	H
SE9	2.7	1.059	14.00	A	1.5	0.527	15.00	VH	2.1	1.021	15.50	H
SE10	2.7	0.949	14.00	A	1.8	0.919	10.00	H	2.25	1.02	12.00	H
SE11	3	0.816	5.50	A	1.7	0.949	13.00	VH	2.35	1.089	9.50	H
SE12	2.8	0.919	11.00	A	2	0.943	8.00	H	2.4	0.995	8.00	H
SE13	2.9	0.568	8.00	A	1.8	0.919	10.00	H	2.35	0.933	9.50	H
SE14	3.2	0.632	3.50	A	2.2	0.789	5.50	H	2.7	0.865	4.00	A
SE15	3	0.667	5.50	A	2.1	0.738	7.00	H	2.55	0.826	6.50	H

SE16	2.7	0.823	14.00	A	1.8	0.789	10.00	H	2.25	0.91	12.00	H
SE17	2.9	1.101	8.00	A	2.3	0.483	3.50	H	2.6	0.883	5.00	A
SE	2.912	0.465		A	1.971	0.4343		H	2.441	0.6518		H

Legend:
1.0 - 1.79 – Very High Engagement (VH)
1.80 – 2.59 – High Engagement (H)
2.60 – 3.39 – Average engagement (A)
3.40 – 4.19 –Low engagement (L)
4.20 – 5.00 –Very Low engagement (VL)

The control group who is not exposed to MILMP's level of engagement in science before (M = 2.68, SD = 0.48) and after (M = 2.68, SD = 0.48) is both Average as shown in Table 3. Students in the control group were not exposed to MILMP, they were in the modular mode of learning only and no interventions and simple monitoring such as sending messages through messenger if no output was submitted.

Table 3: Level of Engagement in Science Learning of the Control Group, not exposed to MILMP

Statement	Before				After				Not Exposed to MILMP			
	Mean	Std. Deviation	Rank	Description	Mean	Std. Deviation	Rank	Description	WM	Std. Deviation	Rank	Description
SE1	3.20	0.919	4.00	A	3.20	0.919	4.00	A	3.20	0.894	4.00	A
SE2	3.20	0.919	4.00	A	3.20	0.919	4.00	A	3.20	0.894	4.00	A
SE3	3.40	0.843	1.00	L	3.40	0.843	1.00	L	3.40	0.821	1.00	L
SE4	3.10	1.287	6.00	A	3.10	1.287	6.00	A	3.10	1.252	6.00	A
SE5	2.60	0.966	9.00	A	2.60	0.966	9.00	A	2.60	0.94	9.00	A
SE6	2.00	0.816	16.00	H	2.00	0.816	16.00	H	2.00	0.795	16.00	H
SE7	2.40	0.843	11.00	H	2.40	0.843	11.00	H	2.40	0.821	11.00	H
SE8	2.30	0.675	13.50	H	2.30	0.675	13.50	H	2.30	0.657	13.50	H
SE9	2.30	1.059	13.50	A	2.30	1.059	13.50	A	2.30	1.031	13.50	A
SE10	1.90	0.738	17.00	H	1.90	0.738	17.00	H	1.90	0.718	17.00	H
SE11	2.40	0.699	11.00	H	2.40	0.699	11.00	H	2.40	0.681	11.00	H
SE12	2.10	0.568	15.00	H	2.10	0.568	15.00	H	2.10	0.553	15.00	H
SE13	2.40	0.966	11.00	H	2.40	0.966	11.00	H	2.40	0.94	11.00	H
SE14	3.00	0.943	7.00	A	3.00	0.943	7.00	A	3.00	0.918	7.00	A
SE15	2.70	0.823	8.00	A	2.70	0.823	8.00	A	2.70	0.801	8.00	A
SE16	3.20	0.919	4.00	A	3.20	0.919	4.00	A	3.20	0.894	4.00	A
SE17	3.30	0.675	2.00	A	3.30	0.675	2.00	A	3.30	0.657	2.00	A
SE	2.68	0.48		A	2.68	0.48		A	2.68	0.47	SE	A

Legend:
1.0 - 1.79 – Very High Engagement (VH)
1.80 – 2.59 – High Engagement (H)
2.60 – 3.39 – Average engagement (A)
3.40 – 4.19 –Low engagement (L)
4.20 – 5.00 –Very Low engagement (VL)

The experimental group's pretest and post-test (M = 15.20, 29.70) (SD = 5.55, 5.08) show a shift from low to average science achievement same as that of the control group in their pretest and post-test (M = 20.00, 20.30) (SD = 9.46, 5.46) as shown in Table 4. From having

low science achievement, meaning the students have low scores from the achievement test given by the teacher on the pre-test to having average or median scores on the post-test.

Table 4: Science achievement of the control and experimental groups before and after the use of MILMP

Group	*Test*	*Mean*	*Std. Deviation*	*Description*
Experimental	Pretest	15.20	5.55	L
	Post Test	29.70	5.08	A
Control	Pretest	20.00	9.46	L
	Post Test	20.30	5.46	A

Legend:

40.01 – 50.00 – Very High Science Achievement (VH)
30.01 – 40.00 – High Science Achievement (H)
20.01 – 30.00 – Average Science Achievement (A)
10.01 – 20.00 – Low Science Achievement (L)
1.00 – 10.00 - Very Low Science Achievement (VL)

In Table 5, A Mann-Whitney U-test indicates that there is no significant difference in the experimental and control group's Level of science achievement before the use of MILMP (M = 8.9, 12.1), U = 34, ρ = 0.23. Thus, this result failed to reject the null hypothesis.

Table 5: Comparison in Science Achievement between control and experimental groups Before using MILMP

Group	*N*	*Mean Rank*	*Sum of Ranks*	*Mann-Whitney U*	*Sig. (2-tailed)*	*Description*	*Decision*
Experimental	10	8.9	89	34	0.225	Not Sig.	Accept Ho
Control	10	12.1	121				
Total	20						

Mann Whitney U-test in Table 6 reveals that there is a significant difference in science achievement between the experimental and control group after the use of MILMP (M = 6.3, 14.7), U = 8.000, ρ = 0.001. Therefore, the null hypothesis is rejected. This means that when the MILMP is used as a monitoring tool, students' achievement is better than those who were not exposed to it.

Table 6: Comparison in Science Achievement between control and experimental groups After using MILMP

Group	*N*	*Mean Rank*	*Sum of Ranks*	*Mann-Whitney U*	*Sig. (2-tailed)*	*Description*	*Decision*
Control	10	6.3	63	8.000	0.001	Sig.	Reject Ho
Experimental	10	14.7	147				
Total	20						

Wilcoxon signed rank test in Table 7 shows that the science achievement of the experimental group had positively increased from that of the pre-test (M = 5.50), Z = -2.805, ρ = 0.005. This test indicates that this difference is statistically significant, thus null hypothesis is

rejected. This result implies that the scores of the experimental group in the post-test proved as compared to that in the pretest after the use of MILMP.

The same test also indicates that there is no significant difference in the science achievement of the control group from the pretest to their post-test. There are 3 negative ranks (M = 9) which mean the scores decreased in the post-test than on the pretest and 7 positive ranks (M= 4) which means that their scores increased in the post-test, Z = -0.051, ρ = 0.959. Therefore, this result failed to reject the null hypothesis. This means that the scores of the students in the control group in the pre-test and post-test may differ but statistically, there is no significant difference.

Table 7: Comparison in Science Achievement between the pretest and posttest as to groups

Category		N	Mean Rank	Sum of Ranks	Z	Sig. (2-tailed)	Description	Decision
postcon-precon	Negative Ranks	3	9	27	-0.051	0.959	Not Sig	Accept Ho
	Positive Ranks	7	4	28				
	Ties	0						
	Total	10						
postExp-PretestExp	Negative Ranks	0.000	0.000	0.000	-2.805	0.005	Sig	Reject Ho
	Positive Ranks	10	5.50	55				
	Ties	0						
	Total	10						

The summary of difference between each learner's score in the pre-test & post-test was presented in Table 8 below.

Table 8: Summary of Learner's pre-test & Post test result with their gender

EXPERIMENTAL			
Student No.	Gender	PRETEST	POST-TEST
1	F	22	29
2	M	13	23
3	F	11	34
4	F	14	30
5	F	12	26
6	F	11	24
7	M	16	26
8	M	28	33
9	M	13	39
10	M	12	33
MEAN		15.9	29.70
SD		5.55	5.078
CONTROL			
1	F	22	32

2	F	32	16
3	F	17	21
4	F	13	18
5	M	33	21
6	M	10	12
7	M	9	17
8	F	33	22
9	F	16	25
10	M	15	19
MEAN		20	20.3
SD		9.463	5.458

A Mann-Whitney U-test in Table 9 reveals that the use of MILMP is effective (U = 7.50, ρ = 0.001). Thus, the null hypothesis is rejected. The use of MILMP is effective in the improvement achievement as seen in the increase in the post-test of the experimental group. Evidence shows that frequent information and feedback to parents through calls and chats, home visitation, and interventions suited to the needs of the learners make progress monitoring effective (Bergman & Chan, 2019).

Table 9: Effectiveness of MILMP

Group	*N*	*Mean Rank*	*Sum of Ranks*	*Mann-Whitney U*	*Sig. (2-tailed)*	*Description*	*Decision*
Experimental	10	6.25	62.5	7.500	0.001	Sig	Reject Ho
Control	10	14.75	147.5				
Total	20						

Table 10 presents the Mann-Whitney U-test. This test reveals that there is no significant difference in the level of engagement in science learning between those exposed to MILMP and those not exposed (U = 146, ρ = 0.143) thus, this result failed to reject the null hypothesis. Level of engagement was assessed by the learners using a self-report questionnaire thus, self-report surveys are somehow posing biases and limitations such as honesty wherein students may make socially acceptable answers rather than being honest about the real state and subjects may sometimes be unable to assess themselves accurately (Pedneaut, 2020).

Table 10: Comparison in the level of Engagement in Science Learning between experimental and control group

Group	*N*	*Mean Rank*	*Sum of Ranks*	*Mann-Whitney U*	*Sig. (2-tailed)*	*Description*	*Decision*
Exposed to MILMP	20	17.8	356	146	0.143	Not Sig	Accept Ho
Not Exposed to MILMP	20	23.2	464				
Total	40						

To gather the feedback of the parents as to what they can say about the use of MILMP, the Focus-Group Discussion (FGD) reveals the following. The MILMP does not require a lot of money, time, and effort on their part, it's easy to use and they viewed the importance of

parent's involvement. Lastly, immediate feedback and constant communication with the teacher about the progress of their child helped them know how their child is doing in school.

Table 11: Parent's Feedback on the use of MILMP

Theme	**Parent's Feedback in the Use of MILMP**				
Transcripts	**Emerging Concept**	**Sub-categories**	**Categories**	**Frequency**	**%**
Use of MILMP does not require so much time, money and effort, because we have a copy of the MILMP of the teacher we became oriented of the strategies she used and when is the follow-up to our child	Not Time Consuming on parents	Easy to use	Time Factor	**3**	**75%**
It is not time consuming on my part because I always monitor my child if she already finished her school tasks even before the pandemic					
It does not require so much time, money and effort but I am quite challenged in monitoring my child if she does her school works because for whole day, I am washing laundry for a living in town	Not Requiring money on parents	Free to use	Budget & Resources	2	**50%**
There is no problem with the implementation and use of MILMP, I always encourage my child to do the assigned tasks	Involving Parents in their child's learning	Facilitates active involvement of parents	Parental Support & Involvement	3	**75%**
There are no challenges met during the use of MILMP, I just facilitated and reminded					

I became more involved in my child's academic achievement because of MILMP					
Through immediate feedback and constant communication with the teacher, it helps us be engaged more"	Giving Timely & Immediate Feedback	Establishes Constant Communication	Immediate Feedbacking	4	**100%**
By texting and calling or even during the home visit, I can immediately know if my child understands the lesson or not					
Immediate feedback and communication about how my child progresses is not a burden					
It's good, I really want to know if my child passes all the exams					
The score of my child increased, I think MILMP is helpful	Helps in increasing test scores.	Effective tool in helping the child learn the competencies	With need-based interventions	1	**25%**

Conclusion

Based on the statistical results, it can be inferred that the use of MILMP is effective due to constant communication, active involvement of parents, and immediate feedback. The use of MILMP does not require so much time, effort, and money on the part of the parents. Parent involvement, timely feedback, and communication help in the best implementation of the tool. Most importantly, MILMP improves science achievement and student engagement of academically challenged learners. It is suggested that a larger population will be involved in the study for future researchers who will pursue related or the same study as this. Teachers should also ensure alignment of the strategies to the academic need of the learner identified through the MILMP.

Acknowledgment

The authors extend their gratitude to their family, Romblon State University, Corcuera National High School, and to God Almighty.

References

Alaidaros, H., Omar, M., & Romli, R. (2018). *A Theoretical Framework for Improving Software Project Monitoring Task of Agile Kanban Method. Recent Trends in Data Science and Soft Computing*, 1091–1099. https://doi.org/10.1007/978-3-319-99007-1_101

Bardach, L., Oczlon, S., Pietschnig, J., & Lüftenegger, M. (2020). Has achievement goal theory been right? A meta-analysis of the relation between goal structures and personal achievement goals. *Journal of Educational Psychology, 112*(6), 1197–1220. https://doi.org/10.1037/edu0000419

Bergman, P., & Chan, E. W. (2019). Leveraging Parents through Low-Cost Technology: The Impact of High-Frequency Information on Student Achievement. *Journal of Human Resources*, 1118–9837R1. https://doi.org/10.3368/jhr.56.1.1118-9837r1

Bolt, D. M., Ysseldyke, J., & Patterson, M. J. (2010). Students, teachers, and schools as sources of variability, integrity, and sustainability in implementing progress monitoring. *School Psychology Review, 39*(4), 612–630. https://doi.org/10.1080/00228958.2020.1770006

Bond, M. (2020). *Facilitating student engagement through the flipped classroom approach in K-12: A systematic review. Computers & Education*, 103819. https://doi.org/10.1016/j.compedu.2020.103819

Borovoi, L., Schmidtke, K., & Vlaev, I. (2020). The effects of feedback valance and progress monitoring on goal striving. *Current Psychology*. https://doi.org/10.1007/s12144-020-00925-8

Chang, B. et.al (2016). Does monitoring goal progress promote goal attainment? A meta-analysis of the experimental evidence. *Psychological Bulletin, 142*(2), 198 - 229. https://doi.org/10.1037/bul0000025

Dolin, J. et al. (2017). Exploring Relations Between Formative and Summative Assessment. *Transforming Assessment* (4), 53-80. https://link.springer.com/chapter/10.1007/978-3-319-63248-3_3

Dumont, H. et al. (2014). Quality of Parental Homework Involvement: Predictors and Reciprocal Relations with Academic Functioning in the reading Domain. *J. Educ. Psychol. 106* (1), 144–161. https://doi.org/10.1037/a0034100

Förster, M., Weiser, C., & Maur, A. (2018). How feedback provided by voluntary electronic quizzes affects learning outcomes of university students in large classes. *Computers & Education, 121*, 100–114. https://doi.org/10.1016/j.compedu.2018.02.012

Fuchs, L. S. (2017). Curriculum-based measurement as the emerging alternative: Three decades later. *Learning Disabilities Research & Practice, 32*(1), 5–7.

Furey, J., & Loftus-Rattan, S. M. (2021). *Actively Involving Students With Learning Disabilities in Progress Monitoring Practices. Intervention in School and Clinic,* 105345122110326. https://doi.org/10.1177/10534512211032618

Gray, C. & Toms, N. (2018). A holistic remediation intervention for struggling undergraduate medical students affords sustained Progress Test performance recovery. *MedEdPublish*. https://doi.org/10.15694/mep.2018.0000210.1

Groccia, J. E. (2018). What Is Student Engagement? *New Directions for Teaching and Learning, 2018(154), 11–20.* https://doi.org/10.1002/tl.20287

Harrell, C. et al. (2018). Vulnerability Assessment, Remediation, and Automated Reporting: Case Studies of Higher Education Institutions. 2018 *IEEE International Conference on Intelligence and Security Informatics* (ISI). https://doi.org/10.1109/isi.2018.8587380

Lasmawan, I.W. & Rudiarta, I.W. (2020). Vygotsky's Zone Of Proximal Development and The Students' Progress in Learning (A Heutagogcal Bibliographical Review). *Indonesian of Educational Journal, 9*(4). https://ejournal.undiksha.ac.id/index.php/JPI/article/view/29915

Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A meta-analysis. Social Behavior and Personality: *An International Journal, 46(3), 517–528.* https://doi.org/10.2224/sbp.7054

Malecka, B., & Boud, D. (2021). Fostering student motivation and engagement with feedback through ipsative processes. *Teaching in Higher Education,* 1–16. https://doi.org/10.1080/13562517.2021.1928061

Miller, C. J., Smith, S. N., & Pugatch, M. (2019). Experimental and Quasi-Experimental Designs in Implementation Research. *Psychiatry Research*. doi:10.1016/j.psychres.2019.06.027

Muller, C. (2018). *Parent involvement and academic achievement.* (1st ed). Parents, Their Children, and Schools. Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9780429498497-4/parent-involvement-academic-achievement-chandra-muller

Pedneault, K. S. (2020). The use of self-report data in psychology. https://www.verywellmind.com/definition-of-self-report-425267

Pryima, S. et al. (2018). Lifelong learning progress monitoring as a tool for local development management. *Problems and Perspective in Management Journal, 3,* 1-13. https://www.ceeol.com/search/article-detail?id=681085

Reeve, J. & Shin, S. (2020). How teachers can support students' agentic engagement. *Theory into practice, 59*(2). https://doi.org/10.1080/00405841.2019.1702451

Reister, M., & Blanchard, S. B. (2020). Tips and Tools for Implementing Progress Monitoring. *Kappa Delta Pi Record, 56(3),* 128–134. https://doi.org/10.1080/00228958.2020.1770006

Rogers, J; Révész, A; (2020) Experimental and quasi-experimental designs. The Routledge Handbook of Research Methods in Applied Linguistics. (pp. 133-143). Routledge: London, UK.

Scherrer, V., Preckel, F., Schmidt, I. & Elliot, A. J. (2020). Development of achievement goals and their relation to academic interest and achievement in adolescence: A review of the literature and two longitudinal studies. *Developmental Psychology, 56* (4), 795-814. 10.1037/dev0000898

Steele, A. (2019). What is the assessment of learning and what are the benefits?[Blog post] Retrieved from https://www.cambridge.org/us/education/blog/2019/07/02/what-assessment-learning-and-what-are-benefits/

Stecker, P. M., Fuchs, D. & Fuchs, L. S. (2017). Progress monitoring as essential practice within response to intervention. *Sage Journal.* https://doi.org/10.1177/875687050802700403

Torres, J. (2019). Positive Impact of Utilizing More Formative Assessment over Summative Assessment in the EFL/ ESL Classroom. *Open Journal of Modern Linguistics, 9* (1). https://doi.org/10.4236/ojml.2019.91001

Victoria (2019). 4 benefits of monitoring student progress in the classroom. Retrieved from https://www.teachstarter.com/au/blog/4-benefits-monitoring-student-progress-classroom/

Wigfield, A. & Eccles, J. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology, 61*. https://doi.org/10.1016/j.cedpsych.2020.101859

Wijngaards-de-Meij, L. & Merx, S. (2018). Improving curriculum alignment and achieving learning goals by making the curriculum visible. *International Journal for Academic Development, 23*(3). 219-231. https://doi.org/10.1080/1360144X.2018.1462187

Contact email: kathleenanne.faderogao@deped.gov.ph
reynaldo_ramos@tup.edu.ph