



ROLE OF INFORMAL DIAGNOSIS IN SCHOOLS FOR THE PREVENTION OF PERMANENT LABELLING OF THE STUDENTS

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ABSTRACT

The paper aims to investigate the role of informal diagnosis in schools for preventing the permanent labelling of students. The study focuses on the impact of student disinterest, parental negligence, and ineffective pedagogy on students' learning gaps and low performance, leading to formal diagnosis and permanent labelling.

The research question aims to explore the different tools for informal diagnosis that teachers can use to identify students' learning gaps and provide timely interventions to promote individualized learning and prevent over diagnosis of students in school.

The study uses a mixed-methods approach, including both qualitative and quantitative data collection methods. Qualitative data will be collected through interviews and focus group discussions with teachers, parents, and students to explore their perceptions and experiences of using informal diagnosis in schools. Quantitative data will be collected through questionnaires to measure the effectiveness of identifying students' learning gaps and promoting individualized learning. The paper applies structured equation modelling and regression with the help of AMOS and SPSS to analyze the data.

The study's findings will contribute to understanding the importance of Informal Diagnosis in preventing permanent labelling of students and promoting inclusive education in schools. The research aims to provide recommendations to teachers, parents, and policymakers on the use of Informal Diagnosis to support students' learning and prevent the negative consequences of permanent labelling. The paper concludes that Informal Diagnosis includes a detailed understanding of the child in all domains i.e. social – emotional, psychological, cognitive, physical strengths /limitations, support from parents, students character, resilience, empathy etc. It also includes a complete understanding of a child's birth history, background history in close interactive sessions with parents and all stakeholders

This process plays a crucial role in identifying reasons for a student learning gaps and in providing timely interventions, promoting individualized learning hence leading to improved academic performance and reduced labelling of students.

Keywords: *Informal Diagnosis, permanent labelling, ineffective pedagogy, structured equation modelling, learning gaps, inclusive education*

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INTRODUCTION

Many students have a negative view of assessments because they find them frustrating. However, some students who are confident in their abilities feel motivated by assessments as it gives them a chance to showcase their strengths. Unfortunately, many students get anxious and intimidated by assessments which leads to unhealthy competition and often results in more students feeling like they have lost rather than won.

There has been a shift in focus in recent times when it comes to evaluating children. Instead of relying heavily on traditional psychometric evaluations, more importance is being placed on evaluations done by teachers. This change is happening alongside an emphasis by contemporary experts on the need for instructional goals to be more closely aligned with Diagnosis procedures. Several movements in special education have prompted these changes

- There is discontent with student evaluations that do not take into account the critical environmental factors present within the academic setting.

To achieve successful reform in education, it is crucial that the three essential components of any educational endeavour, namely curriculum, instruction, and assessments, are well-coordinated. These components should work together towards a common goal and not contradict each other. It is important that assessments evaluate what students are being taught, while the curriculum should align with what educators want students to learn according to Pellegrino, Chudowsky, & Glaser (2001).

Informal Diagnosis utilize methods that are not standardized, such as conducting interviews, observing behaviour, performance-based evaluations, and dynamic academic assessments, to collect data about an individual's skills and strengths. The approach developed by van Dijk aims to gain a holistic understanding of a child's present developmental level in diverse domains, with an emphasis on identifying their abilities in this regard. This approach involves examining various aspects, such as the child's capability to regulate their behaviour and emotions, identifying their preferred learning style and method of processing information and stimuli, assessing their capacity to integrate new experiences into existing mental structures, evaluating their aptitude for learning, recalling, and anticipating routines, analyzing their approach to problem-solving situations, assessing their ability to establish social connections, and examining their communication skills and methods.

The primary aim of this article is to examine the everyday casual formative assessment techniques that teachers utilize. By highlighting Informal Diagnosis practices, teacher education programs, school districts, and state education departments can broaden their understanding of the students. The article will explore four central concepts related to this topic: 1) how parent's negligence, inefficient pedagogy, student's disinterest leads to learning gap. 2) how learning gap contributes to low performance in students. 3) how increased gaps in learning leads to formal diagnosis 4) How much we know about Informal Diagnosis and how we can promote its development.

LITERATURE REVIEW

The current literature investigates the process of Informal Diagnosis in educational settings. Informal Diagnosis is a process which involves a deep understanding about students learning progress. The objective of this study is to give a summary of the research on the value of Informal Diagnosis in schools and the pedagogy of informal Diagnosis that may be employed.

Informal evaluation, as regularly demonstrated by research, is crucial in promoting students' learning objectives. Informal evaluation, according to Black and William (1998), can encourage student participation, motivation, and self-reflection. In order to better address the needs of their pupils, teachers can use this information to determine the strengths and weaknesses of their students. Additionally, it has been demonstrated that Informal Evaluation promotes personalized learning, which is crucial for fulfilling the variety of requirements of students in today's classrooms (Shute, 2008).

Teachers can utilize a variety of informal evaluation techniques to discover more about their student's comprehension and learning development. One of the most popular kinds is observation, in which instructors keep an eye on students as they work and record their actions, approaches, and development. Another method is inquiry, in which teachers pose open-ended inquiries to their charges in an effort to stimulate their knowledge. Another informal evaluation method is self-Diagnosis, in which learners evaluate their progress and make improvements. Peer Diagnosis entails asking students to critique one another's work. Lastly, another informal evaluation method that teachers use is feedback. Another informal evaluation method is feedback, in which teachers notify students of their development and offer advice on how to do better.

Teachers should act as facilitators and mediators of learning during conversations rather than simply giving students the right answer. Successful classrooms should not only manage behaviour, materials, and actions but also reasoning, communication, and ideas. In the context of scientific inquiry, conversations should concentrate on three interconnected areas: epistemic frameworks for constructing and assessing scientific reasoning, conceptual structures employed in scientific reasoning, and social processes concerned with communicating, representing, and debating knowledge, as stated by Duschl (2003).

Several experts proposes different ways of carrying out informal evaluation, such as providing feedback or praise, evaluating linguistic and non-linguistic elements, assessing communication skills, examining student portfolios (for writing Diagnosis), and conducting question-answer sessions (Brown, 2004; Harris & McCann, 1994). Since there are various informal evaluation available, it is up to the teacher or lecturer to decide which one is most suitable for their class. Before selecting an appropriate method, they should consider what aspect they wish to evaluate.

Regular evaluation practices in the classroom can support the development of these cognitive skills by giving feedback on student progress and enabling educators to adapt their teaching strategies accordingly. Research by Black and Wiliam (1998), Duschl and Gitomer (1997), has emphasized the importance of ongoing evaluation to facilitate this process. Creating a classroom environment that encourages Informal Diagnosis is more conducive to successful formative evaluation. This can lead to more effective teaching practices.

To assess students learning struggles in various modes, Informal Diagnosis can utilize daily learning activities as potential evidence to understand a student's struggles in academics. These can provide evidence of students' learning through oral evidence (such as conversations and student questions and responses), written evidence (like science notebook notes), graphic evidence (such as drawings or concept maps), practical evidence (including observations of student experiments and measurements), and non-verbal evidence (such as body language and orientation), home visits to understand parent and student relationship, parents contribution. According to Eisenkraft (2004), these modes of observations can be used to gather evidence of students' learning.

In order to enhance the effectiveness of conversations, it is imperative to review and restructure the employed strategies. Rather than confining conversations to classroom settings, they ought to be executed with a clear learning goal in mind. Expert teachers who possess comprehensive content knowledge are better equipped to furnish intricate interpretations of student responses and feedback (Minstrell et al. 2009). Moreover, they can explicate the learning objectives and success criteria, and solicit students' participation in devising success criteria and deliberating the learning objectives. Harlen (2007) suggests that communication of learning goals to students should encompass an explanation of the subject matter to be learned and the manner in which it will be acquired.

This article presents an initial investigation that is a component of a broader initiative examining how formal embedded assessments influence student learning, as outlined in Shavelson and Young's (2000) research. The investigation, which involved six "experimental" and six "control" instructors, was a small randomized experiment conducted over a six-month duration to evaluate student achievement and motivation, as well as educators' views on assessments and learning. The study arose from 18 months of preparation and pilot research with three instructors and their pupils.

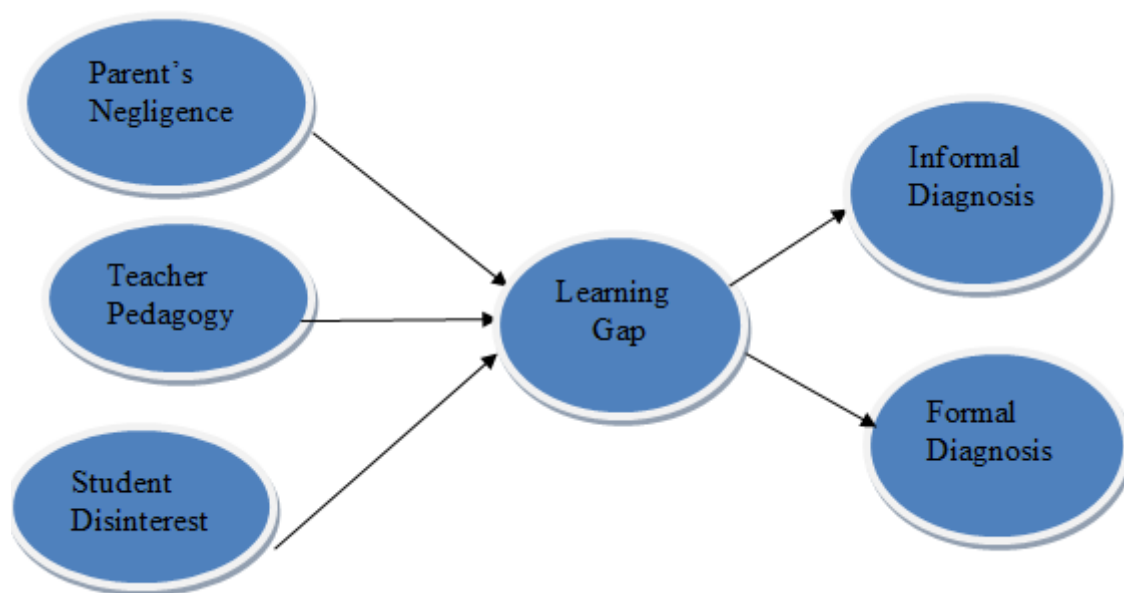


Fig: Research Framework

Variables and Construct

Variables		Explanation
Parents Negligence	Learning Gap	Negligent parenting can have an impact on the learning gap in a number of ways. If parents do not offer their children support, resources, or a stimulating atmosphere, it can be challenging for them to keep pace academically with their peers. In addition,

		poor health and nutrition, inadequate parental involvement in their children's education, and a lack of exposure to various experiences may put children at a disadvantage. These factors may contribute to a learning gap between those who receive the appropriate support and those who do not.
Teacher Pedagogy	Learning Gap	Pedagogy that fails to engage or challenge students may hinder their academic progress. For instance, when teachers rely on rote memorization or lectures without interactive learning, students may not develop critical thinking or problem-solving skills. Consequently, this can result in a gap between students who thrive in such an environment and those who do not. Over time, students who find it difficult to grasp concepts may fall behind their peers, thus leading to a widening of the learning gap. Ineffective pedagogy can result from a lack of consideration for language barriers, mismatched learning styles, and the absence of multisensory approaches. These factors can hinder student learning by impeding comprehension, failing to meet individual student needs, and limiting access to different modes of learning.
Student's Disinterest	Learning Gap	Disengaged students may not actively participate in classroom activities or may neglect homework assignments, which can hinder their ability to acquire the knowledge and skills necessary to keep pace with their peers. As a result, these students may experience a learning gap that can grow over time, as they may struggle to comprehend new concepts and fall further behind their classmates.

Research Gap

Informal Diagnosis is typically used to gauge student understanding and progress in real-time, and can provide valuable feedback to both teachers and students. However, there are several research gaps in Informal Diagnosis that are related to various factors.

Ineffective pedagogy and students' disinterest are significant research gap in informal Diagnosis. Teachers who use ineffective teaching methods may not be able to accurately assess student understanding, as students may not fully grasp the concepts being taught. This can be a particular challenge in subjects that require critical thinking or problem-solving skills. Also, if parents are not fully engaged in their child's education, it can be challenging for teachers to get a complete picture of the student's progress.

Finally, learning gaps occur when students do not have the necessary foundational knowledge to fully grasp new concepts. These gaps needs to be filled because it can be challenging to accurately assess student understanding and progress.

Overall, while Informal Diagnosis can provide valuable insights into student understanding and progress, there are several research gaps that must be addressed to ensure that it is an effective tool for teachers. These gaps include student disinterest, parents' negligence, ineffective pedagogy, and learning gaps, and addressing these issues will be critical in improving Informal Diagnosis in the future hence prevention of formal diagnosis.

Objectives

- To examine the impact of parent's negligence on learning gap in students.
- To examine the impact of teacher pedagogy on learning gap in students.
- To examine the impact of students' disinterest on learning gap in students.
- To examine the effect of learning gap on the low performance of the students.

Results and Discussion

DATA ANALYSIS

Attributes of Learning Gap and comparison between number of Informal and Formal Diagnosis

OBJECTIVE

To determine the influence of three major attributes of learning gaps viz. parent negligence, teacher pedagogy and student disinterest and as a sequel to this, to compare between the numbers of cases sent for formal Diagnosis and informal Diagnosis

RELIABILITY AND VALIDITY OF QUESTIONNAIRE

1. Test Retest Reliability

Correlation matrix reflecting the data collected on two different dates from the same set of 40 respondents

Parents Negligence

		Correlations									
		PN1Day1	PN1Day2	PN2Day1	PN2Day2	PN3Day1	PN3Day2	PN4Day1	PN4Day2	PN5Day1	PN5Day2
PN1Day1	Pearson Correlation	1	.696**	.713**	.755**	.794**	.758**	.770**	.662**	.648**	.715**
	Sig. (2-tailed)		0	0	0	0	0	0	0	0	0
PN1Day2	Pearson Correlation	.696**	1	.631**	.737**	.814**	.736**	.721**	.693**	.717**	.787**
	Sig. (2-tailed)	0		0	0	0	0	0	0	0	0
PN2Day1	Pearson Correlation	.713**	.631**	1	.707**	.707**	.805**	.748**	.706**	.727**	.694**
	Sig. (2-tailed)	0	0		0	0	0	0	0	0	0
PN2Day2	Pearson Correlation	.755**	.737**	.707**	1	.779**	.660**	.840**	.721**	.616**	.669**
	Sig. (2-tailed)	0	0	0		0	0	0	0	0	0
PN3Day1	Pearson Correlation	.794**	.814**	.707**	.779**	1	.763**	.764**	.763**	.727**	.748**
	Sig. (2-tailed)	0	0	0	0		0	0	0	0	0
PN3Day2	Pearson Correlation	.758**	.736**	.805**	.660**	.763**	1	.720**	.696**	.733**	.702**
	Sig. (2-tailed)	0	0	0	0	0		0	0	0	0
PN4Day1	Pearson Correlation	.770**	.721**	.748**	.840**	.764**	.720**	1	.643**	.626**	.711**
	Sig. (2-tailed)	0	0	0	0	0	0		0	0	0
PN4Day2	Pearson Correlation	.662**	.693**	.706**	.721**	.763**	.696**	.643**	1	.655**	.648**
	Sig. (2-tailed)	0	0	0	0	0	0	0		0	0
PN5Day1	Pearson Correlation	.648**	.717**	.727**	.616**	.727**	.733**	.626**	.655**	1	.706**
	Sig. (2-tailed)	0	0	0	0	0	0	0	0		0
PN5Day2	Pearson Correlation	.715**	.787**	.694**	.669**	.748**	.702**	.711**	.648**	.706**	1
	Sig. (2-tailed)	0	0	0	0	0	0	0	0	0	

significant at the 0.01 level (2-tailed).

Teacher Pedagogy

		Correlations									
		IP1Day1	IP1Day2	IP2Day1	IP2Day2	IP3Day1	IP3Day2	IP4Day1	IP4Day2	IP5Day1	IP5Day2
TP1Day1	Pearson Correlation	1	.858**	.802**	.519**	.405*	0.2	0.113	0.201	0.102	0.266
	Sig. (2-tailed)		0	0	0.001	0.011	0.223	0.495	0.221	0.537	0.102
TP1Day2	Pearson Correlation	.858**	1	.881**	.672**	.532**	0.276	0.298	.368*	0.281	.379*
	Sig. (2-tailed)	0		0	0	0	0.089	0.065	0.021	0.083	0.017
TP2Day1	Pearson Correlation	.802**	.881**	1	.777**	.624**	.464**	.445**	.482**	.422**	.503**
	Sig. (2-tailed)	0	0		0	0	0.003	0.005	0.002	0.007	0.001
TP2Day2	Pearson Correlation	.519**	.672**	.777**	1	.750**	.682**	.637**	.626**	.439**	.617**
	Sig. (2-tailed)	0.001	0	0		0	0	0	0	0.005	0
TP3Day1	Pearson Correlation	.405*	.532**	.624**	.750**	1	.773**	.709**	.680**	.499**	.547**
	Sig. (2-tailed)	0.011	0	0	0		0	0	0	0.001	0
TP3Day2	Pearson Correlation	0.2	0.276	.464**	.682**	.773**	1	.834**	.692**	.610**	.737**
	Sig. (2-tailed)	0.223	0.089	0.003	0	0		0	0	0	0
TP4Day1	Pearson Correlation	0.113	0.298	.445**	.637**	.709**	.834**	1	.849**	.759**	.756**
	Sig. (2-tailed)	0.495	0.065	0.005	0	0	0		0	0	0
TP4Day2	Pearson Correlation	0.201	.368*	.482**	.626**	.680**	.692**	.849**	1	.838**	.799**
	Sig. (2-tailed)	0.221	0.021	0.002	0	0	0	0		0	0
TP5Day1	Pearson Correlation	0.102	0.281	.422**	.439**	.499**	.610**	.759**	.838**	1	.823**
	Sig. (2-tailed)	0.537	0.083	0.007	0.005	0.001	0	0	0		0
TP5Day2	Pearson Correlation	0.266	.379*	.503**	.617**	.547**	.737**	.756**	.799**	.823**	1
	Sig. (2-tailed)	0.102	0.017	0.001	0	0	0	0	0	0	

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed)

Student Disinterest:

		Correlations									
		SD1Day1	SD1Day2	SD2Day1	SD2Day2	SD3Day1	SD3Day2	SD4Day1	SD4Day2	SD5Day1	SD5Day2
SD1Day1	Pearson Correlation	1	.838**	.863**	.861**	.864**	.861**	.886**	.866**	.884**	.889**
	Sig. (2-tailed)		0	0	0	0	0	0	0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD1Day2	Pearson Correlation	.838**	1	.642**	.658**	.735**	.706**	.771**	.676**	.777**	.790**
	Sig. (2-tailed)	0		0	0	0	0	0	0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD2Day1	Pearson Correlation	.863**	.642**	1	.796**	.698**	.788**	.844**	.743**	.749**	.707**
	Sig. (2-tailed)	0	0		0	0	0	0	0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD2Day2	Pearson Correlation	.861**	.658**	.796**	1	.726**	.739**	.810**	.834**	.718**	.752**
	Sig. (2-tailed)	0	0	0		0	0	0	0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD3Day1	Pearson Correlation	.864**	.735**	.698**	.726**	1	.709**	.726**	.776**	.784**	.758**
	Sig. (2-tailed)	0	0	0	0		0	0	0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD3Day2	Pearson Correlation	.861**	.706**	.788**	.739**	.709**	1	.828**	.687**	.757**	.708**
	Sig. (2-tailed)	0	0	0	0	0		0	0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD4Day1	Pearson Correlation	.886**	.771**	.844**	.810**	.726**	.828**	1	.693**	.841**	.793**
	Sig. (2-tailed)	0	0	0	0	0	0		0	0	0
	N	40	40	40	40	40	40	40	40	40	40
SD4Day2	Pearson Correlation	.866**	.676**	.743**	.834**	.776**	.687**	.693**	1	.729**	.770**
	Sig. (2-tailed)	0	0	0	0	0	0	0		0	0
	N	40	40	40	40	40	40	40	40	40	40
SD5Day1	Pearson Correlation	.884**	.777**	.749**	.718**	.784**	.757**	.841**	.729**	1	.795**
	Sig. (2-tailed)	0	0	0	0	0	0	0	0		0
	N	40	40	40	40	40	40	40	40	40	40
SD5Day2	Pearson Correlation	.889**	.790**	.707**	.752**	.758**	.708**	.793**	.770**	.795**	1
	Sig. (2-tailed)	0	0	0	0	0	0	0	0	0	
	N	40	40	40	40	40	40	40	40	40	40

** . Correlation is significant at the 0.01 level (2-tailed).

All the table reflects that there is a significant correlation between the data collected on two different days by the same 40 respondents.

2. Internal Consistency Reliability

Item	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items	No of observations	Internal Consistency
Parental Negligence	0.724	0.724	3	40	Acceptable
Teacher Pedagogy	0.712	0.712	3	40	Acceptable
Student Disinterest	0.701	0.702	3	40	Acceptable

Validity

1. Content Validity

$$CVR = \frac{N_e - (N/2)}{N/2}$$

CVR= Content Validity Ratio

N_e = number of experts who declare an item of importance

N = The total number of experts Table

TABLE 1 : MINIMUM VALUE OF CVR, $p = .05$, SOURCE: (LAWSHE, 1975)

No. of Panellists	Minimum Value
5	.99
6	.99
7	.99
8	.75
9	.78
10	.62
11	.59
12	.56
13	.54
14	.51
15	.49
20	.42
25	.37
30	.33
35	.31
40	.29

Item	Question	Judge 1	Judge 2	Judge 3	Judge 4	Judge 5	Judge 6	Judge 7	Judge 8	Judge 9	Judge 10	Total Count	Content Validity Ratio (CVR)
PN1		1		1	1		1	1		1	1	7	0.75
PN2		1		1	1		1	1	1	1		7	0.75
PN3			1	1		1	1	1	1	1		7	0.75
PN4			1	1		1		1	1	1	1	7	0.75
PN5			1	1	1		1	1		1	1	7	0.75
IP1		1	1	1		1		1	1	1	1	8	1
IP2		1		1	1	1	1	1		1		7	0.75
IP3		1	1	1	1		1		1	1	1	8	1
IP4		1		1			1	1	1	1	1	7	0.75
IP5		1			1	1	1	1	1	1	1	8	1
SD1			1			1	1	1	1	1	1	7	0.75
SD2			1	1		1	1	1	1		1	7	0.75
SD3		1	1	1		1	1	1	1		1	8	1
SD4		1	1	1		1		1	1		1	7	0.75
SD5		1	1	1		1		1	1		1	7	0.75

2. Construct Validity: Convergent & Discriminant Validity

		Convergent Divergent Validity														
		PN1	PN2	PN3	PN4	PN5	IP1	IP2	IP3	IP4	IP5	SD1	SD2	SD3	SD4	SD5
PN1	Pearson Correlation	1	.696**	.713**	.755**	.794**	0.277	0.194	0.208	0.191	0.118	0.242	0.149	.322*	0.279	0.201
	Sig. (2-tailed)		0	0	0	0	0.083	0.23	0.197	0.237	0.468	0.133	0.36	0.043	0.081	0.214
PN2	Pearson Correlation	.696**	1	.631**	.737**	.814**	0.133	0.074	0.036	0.061	0.04	0.099	0.06	0.178	0.121	0.001
	Sig. (2-tailed)	0		0	0	0	0.415	0.652	0.823	0.709	0.808	0.545	0.711	0.273	0.456	0.993
PN3	Pearson Correlation	.713**	.631**	1	.707**	.707**	0.119	0.087	0.107	0.202	0.044	.326*	0.186	.461**	0.268	0.288
	Sig. (2-tailed)	0	0		0	0	0.464	0.593	0.51	0.212	0.789	0.04	0.25	0.003	0.095	0.071
PN4	Pearson Correlation	.755**	.737**	.707**	1	.779**	0.199	0.242	0.218	0.189	0.213	0.237	0.163	0.297	0.21	0.159
	Sig. (2-tailed)	0	0	0		0	0.217	0.133	0.177	0.242	0.187	0.141	0.314	0.063	0.193	0.326
PN5	Pearson Correlation	.794**	.814**	.707**	.779**	1	0.043	0.005	0.058	0.117	-0.019	0.257	0.173	.318*	0.232	0.198
	Sig. (2-tailed)	0	0	0	0		0.792	0.973	0.724	0.473	0.907	0.11	0.286	0.046	0.149	0.221
TP1	Pearson Correlation	0.277	0.133	0.119	0.199	0.043	1	.866**	.816**	.555**	.451**	-0.193	-0.164	-0.09	-0.106	-0.29
	Sig. (2-tailed)	0.083	0.415	0.464	0.217	0.792		0	0	0	0.004	0.232	0.312	0.581	0.516	0.07
TP2	Pearson Correlation	0.194	0.074	0.087	0.242	0.005	.866**	1	.888**	.692**	.562**	-0.177	-0.207	-0.058	-0.011	-0.238
	Sig. (2-tailed)	0.23	0.652	0.593	0.133	0.973	0		0	0	0	0.275	0.2	0.724	0.945	0.139
TP3	Pearson Correlation	0.208	0.036	0.107	0.218	0.058	.816**	.888**	1	.793**	.653**	-0.077	-0.131	0.02	0.091	-0.141
	Sig. (2-tailed)	0.197	0.823	0.51	0.177	0.724	0	0		0	0	0.639	0.419	0.902	0.578	0.387
TP4	Pearson Correlation	0.191	0.061	0.202	0.189	0.117	.555**	.692**	.793**	1	.771**	0.082	-0.026	0.208	0.258	0.022
	Sig. (2-tailed)	0.237	0.709	0.212	0.242	0.473	0	0	0		0	0.614	0.875	0.197	0.107	0.893
TP5	Pearson Correlation	0.118	0.04	0.044	0.213	-0.019	.451**	.562**	.653**	.771**	1	-0.017	-0.075	0.021	0.141	-0.057
	Sig. (2-tailed)	0.468	0.808	0.789	0.187	0.907	0.004	0	0	0		0.917	0.645	0.896	0.385	0.727
SD1	Pearson Correlation	0.242	0.099	.326*	0.237	0.257	-0.193	-0.177	-0.077	0.082	-0.017	1	.838**	.863**	.861**	.864**
	Sig. (2-tailed)	0.133	0.545	0.04	0.141	0.11	0.232	0.275	0.639	0.614	0.917		0	0	0	0
SD2	Pearson Correlation	0.149	0.06	0.186	0.163	0.173	-0.164	-0.207	-0.131	-0.026	-0.075	.838**	1	.642**	.658**	.735**
	Sig. (2-tailed)	0.36	0.711	0.25	0.314	0.286	0.312	0.2	0.419	0.875	0.645	0		0	0	0
SD3	Pearson Correlation	.322*	0.178	.461**	0.297	.318*	-0.09	-0.058	0.02	0.208	0.021	.863**	.642**	1	.796**	.698**
	Sig. (2-tailed)	0.043	0.273	0.003	0.063	0.046	0.581	0.724	0.902	0.197	0.896	0	0		0	0
SD4	Pearson Correlation	0.279	0.121	0.268	0.21	0.232	-0.106	-0.011	0.091	0.258	0.141	.861**	.658**	.796**	1	.726**
	Sig. (2-tailed)	0.081	0.456	0.095	0.193	0.149	0.516	0.945	0.578	0.107	0.385	0	0	0		0
SD5	Pearson Correlation	0.201	0.001	0.288	0.159	0.198	-0.29	-0.238	-0.141	0.022	-0.057	.864**	.735**	.698**	.726**	1
	Sig. (2-tailed)	0.214	0.993	0.071	0.326	0.221	0.07	0.139	0.387	0.893	0.727	0	0	0	0	
		**. Correlation is significant at the 0.01 level (2-tailed).														
		*. Correlation is significant at the 0.05 level (2-tailed).														

The highlighted matrices indicate the association between the variables associated with three constructs Parent negligence, Teacher Pedagogy and Student disinterest

It can be seen that

1. There is a significant correlation within the measures of each construct- **indicating convergent validity**
2. There is no significant correlation between the measures of two constructs- **indicating divergent validity**

Thus construct validity is established

REGRESSION ANALYSIS

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886 ^a	.785	.783	.66222

The adjusted r square =0.785, Thus the independent variables can explain only 78.5% variability in dependent variable. The model is good

ANOVA ^b						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	533.530	3	177.843	405.541	.000 ^a
	Residual	146.470	334	.439		
	Total	680.000	337			
a. Predictors: Student_Disinterest, Parent_Negligence, Teacher_Pedagogy						
b. Dependent Variable: Learning_Gap						

H₀: All co-efficient are not significantly different from zero.

H₁: At least one co-efficient is significantly different from zero.

P-value = 0.000 < 0.05 = α , the level of significance,

Null Hypothesis H₀ is rejected.

Therefore, At 5% level of significance (95% confidence), atleast one co-efficient is significantly different from zero.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.153	.133		-1.150	.251
	Parent_Negligence	.792	.028	.782	28.146	.000
	Teacher_Pedagogy	.234	.032	.205	7.376	.000
	Student_Disinterest	.030	.026	.029	1.155	.249
a. Dependent Variable: Learning_Gap						

Learning Gap = .792 Parent Negligence + 0.234 Teacher Pedagogy + 0.030 Student Disinterest – 0.153

It is observed that p-value of regression co-efficients of parent negligence and teacher pedagogy is less than 0.05 the level of significance, however is more than 0.05 for student disinterest

Therefore the researcher may infer that parent negligence and teacher pedagogy significantly contribute to learning gap, however, student disinterest do not significantly impact learning gap

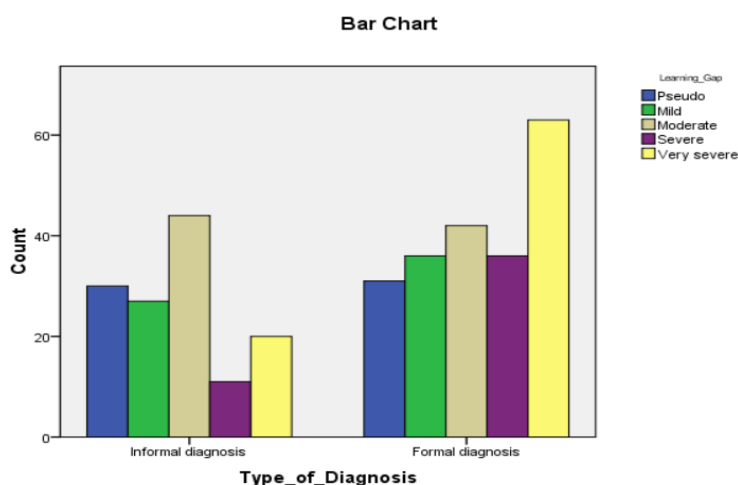
Analysis 1

1. Questionnaire designed to measure attributes of learning gap is reliable and valid
2. Amongst the attributes of learning gaps “Parent negligence” is most important
3. Amongst the attributes of learning gaps “student disinterest” is least important
4. Attributes of learning gaps in descending order of their importance



Comparison between number of Informal and Formal Diagnosis

			Learning_Gap					Total
			Pseudo	Mild	Moderate	Severe	Very severe	
Type_of_Diagnosis	Informal diagnosis	Count	30	27	44	11	20	132
		% within Type_of_Diagnosis	22.7%	20.5%	33.3%	8.3%	15.2%	100.0%
		% within Learning_Gap	49.2%	42.9%	51.2%	23.4%	24.1%	38.8%
		% of Total	8.8%	7.9%	12.9%	3.2%	5.9%	38.8%
	Formal diagnosis	Count	31	36	42	36	63	208
		% within Type_of_Diagnosis	14.9%	17.3%	20.2%	17.3%	30.3%	100.0%
		% within Learning_Gap	50.8%	57.1%	48.8%	76.6%	75.9%	61.2%
		% of Total	9.1%	10.6%	12.4%	10.6%	18.5%	61.2%
Total	Count	61	63	86	47	83	340	
	% within Type_of_Diagnosis	17.9%	18.5%	25.3%	13.8%	24.4%	100.0%	
	% within Learning_Gap	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	17.9%	18.5%	25.3%	13.8%	24.4%	100.0%	



On the basis of above sample statistics, it is proposed to examine that is the number of formal Diagnosis significantly higher than Informal Diagnosis

Two-sample z-test comparing two proportions

H₀: Number of formal Diagnosis (P_f) significantly lower than or equal to informal Diagnosis (P_i) i.e.

$$P_f \leq P_i \Rightarrow P_f - P_i \leq 0$$

H₁: Number of formal Diagnosis (P_f) significantly higher than informal Diagnosis (P_i) i.e.

$$P_f > P_i \Rightarrow P_f - P_i > 0$$

Tool used: R-Studio

```
> prop.test(c(208,132),c(340,340),alternative = "greater", correct = T)
```

2-sample test for equality of proportions with continuity correction

data: c(208, 132) out of c(340, 340)

X-squared = 33.088, df = 1,

p-value = 4.403e-09

alternative hypothesis: greater

95 percent confidence interval: 0.159107 1.000000

sample estimates: prop 1 prop 2

0.6117647 0.3882353

Analysis 2

p-value= 4.403e-09 < 0.05 = α , the level significance

Accept alternative hypothesis H1

One can say with 95% confidence that number of formal Diagnosis is significantly higher than the informal Diagnosis thus leading to over diagnosis of students

FINDINGS

1. Questionnaire designed to measure attributes of learning gap is reliable and valid
2. Amongst the attributes of learning gaps "Parent negligence" is most important
3. Amongst the attributes of learning gaps "student disinterest" is least important
4. Attributes of learning gaps in descending order of their importance

Parent negligence

Teacher Pedagogy

Student Disinterest



5. One can say with 95% confidence that number of formal Diagnosis is significantly higher than the informal Diagnosis

Limitations:

The study ignores other variables such as learning infrastructure, family background, excessive workload and other such factors that contribute to low performance in students.

The research sample lacks diversity, as different cultures may produce distinct results that cannot be applied to the entire population. Therefore, the research findings may not be representative of the population as a whole.

Future Directives:

It is important to consider alternative approaches such as meta-analysis, simulation studies, or using data from multiple sources. Additionally, researchers should focus on increasing recruitment efforts, improving data collection methods, and collaborating with other researchers to increase sample size. Finally, it may be beneficial to consider adjusting the research question or scope to better match available sample size

Despite the fact that our study is only preliminary, our findings suggest that there is scope for growth in professional development in this field. It is critical for teachers to have more diagnosis conversations that actively involve students in their learning.

REFERENCES

- Grisham-Brown, J., Kearns, J.F., Joseph, L.M., Seery, M.E., Kleinert, H.L., Kearns, J.F., Kliwer, C., Biklen, D., Pellegrino, J., Chudowsky, N. and Glaser, R., 2001. .Creating standards-based individualized education programs. *Remedial and Special Education*, 25(2).
- Black, P. and Wiliam, D., 1998. Diagnosis and classroom learning. *Diagnosis in Education: principles, policy & practice*, 5(1), pp.7-74.
- Shute, V.J., 2008. Focus on formative feedback. *Review of educational research*, 78(1), pp.153-189.
- Brown, H.G. 2004. *Language Diagnosis: Principles and classroom practices*. New York: Longman.
- Harris, M., & McCann, P. 1994. *Diagnosis*. *Diagnosis*, 63–86.
- Duschl, R. A., & Gitomer, D. H. 1997. Strategies and challenges to changing the focus of Diagnosis and instruction in science classrooms. *Educational Diagnosis*, 4(1), 37-73.
- Eisenkraft, A. 2004. How do we know what they know? FASS Meeting.
- Minstrell, J., Li, M. and Anderson, R., 2009. Evaluating science teachers' formative Diagnosis competency. Technical report submitted to NSF.
- Harlen, W., 2007. Formative classroom Diagnosis in science and mathematics. *Formative classroom Diagnosis: Theory into practice*, pp.116-135.
- Duschl, R. A. 2003. Diagnosis of inquiry. In J. M. Atkin & J. E. Coffey (Eds.) *Everyday Diagnosis in the science classroom* (pp.41-59). Washington, DC.: National Science Teachers Association Press.
- Shavelson, R. J., & Young, D. (2000). Embedding Diagnosis in the FAST curriculum: On the beginning the romance among curriculum, teaching and Diagnosis. Proposal submitted at the Elementary, Secondary and Informal Education Division at the National Science Foundation.