p- ISSN: 2708-2113 e-ISSN: 2708-3608 URL: http://dx.doi.org/10.31703/gesr.2022(VII-I).28
Vol. VII, No. I (Winter 2022) Pages: 280 – 290 DOI: 10.31703/gesr.2022(VII-I).28

Use of Differentiated Instructions for the Inclusion of All Learners: Insights from the Prospective Teachers in Pakistan

Afaf Manzoor	Assistant Professor, Department of Special Education, University of Education, Lahore, Punjab, Pakistan. Email: afaf.manzoor@ue.edu.pk *(Corresponding Author)*
Gulfam Nawaz	Lecturer, Department of Special Education, University of Education, Lahore, Punjab, Pakistan.
Hina Munir	Lecturer, Department of Educational Leadership & Policy Studies, University of Education, Lahore, Punjab, Pakistan.

Abstract: *The move for inclusive education has successfully completed the advocacy phase of this new concept in Pakistan. Punjab is now actively engaged in adapting its entire system of over fifty thousand primary schools to embark on this new journey. It seems, therefore, important to see to what extent the prospective teachers are ready to take up this task in the future. This study was conducted to investigate the perceptions of prospective teachers about the knowledge and use of differentiated instructions to implement inclusive education effectively in regular classrooms. DIS; Roy, Guay, and Valois (2015) were used to collect data. The sample of the study consisted of 162 prospective teachers enrolled in B.Ed. Hons. Education and B.Ed. Hons. Special Education in two major public sector universities. The findings of the study indicated that prospective teachers understand differentiated instruction as a strategy in inclusive education, but they lack knowledge in practising and adaptation processes.*

Key Words: Pedagogy, Instructions, Inclusion, Teacher Education, Differentiated Instruction

Introduction

Instruction today has been transformed from conventional teaching to an innovative approach. Similarly, the classrooms are becoming more inclusive in terms of language, ethnicity, and economic conditions to accommodate diverse learners (McLoughlin, 2001). Therefore, stakeholders, especially teachers, are facing challenges in dealing with such diversity in classrooms. Studies reveal a disproportionate achievement gap among neurotypical and diverse learners in mainstream, i.e., a significant gap has been found between Asian, White, African American, and destitute students (Carter, 2020; Rampey, Dion, & Donahue, 2009; Voltz & Fore III, 2006). Another significant achievement gap has been identified among children with disabilities, as only 30% of students with disabilities were able to achieve proficiency levels (Rock, Gregg, Ellis, & Gable, 2008; Thurlow, Moen, & Altman, 2006). This gap in academic achievement impacts a great concern for the maintenance of quality and equity in education. Globally, several states agreed to take it as a challenge and made adaptations in curricula for monitoring students' performance levels (Brehm-Stecher & Johnson, 2003). However, for the purpose of curriculum adaptations, teachers were thought to be the most appropriate personals to take this responsibility and improve their abilities in dealing diversity of students (McTighe & Brown, 2005). It was the expectation from

Citation: Manzoor, A., Nawaz, G., & Munir, H. (2022). Use of Differentiated Instructions for the Inclusion of All Learners: Insights from the Prospective Teachers in Pakistan. *Global Educational Studies Review*, *VII*(I), 280-290. https://doi.org/10.31703/gesr.2022(VII-I).28

teachers to be careful while adapting these curriculum contents, although they can use various ways to achieve these adaptation goals (Levy, 2008). Another vital aspect that is important while making adaptations in instructions is scientific approval. It means that adaptation in curriculum or instruction must follow the research and evidence-based practices without compromising students' achievement levels. (Hyun, 2003). The need for effective instructional delivery is equally important for a conducive learning environment to meet the diversified needs of children. Differentiated instructional design is a frame of work to better understand these diversity-based situations (Lawrence-Brown, 2004; Tomlinson, 2000). Carol Ann Tomlinson is one of the pioneers who worked and explained differentiated instruction to address the teaching and learning needs of all children. Her rationale behind this approach was that; students come from different backgrounds, cultures, languages, abilities, learning styles, interests, and motivations (Carol Ann Tomlinson, 2001). These students from various backgrounds consequently form a differentiated classroom. According to Tomlinson (1999), the differentiated classroom is designed in such a way that it is ready to deal with a variety of students in terms of ability, interest, and learning outcomes. Moreover, the purpose of the involvement of students in the classroom is to make every child successful, and the teacher is trained enough to set individual goals for task completion to ensure every child progresses with a sense of achievement (Lawrence-Brown, 2004). Another important factor that drives the need for differentiated instruction in learning is the movement for inclusive education, with the major concern for the inclusion of children having disabilities in education (Tobin & Tippett, 2014; Tomlinson et al., 2003). With the growing realization of unsuccessful practices in segregated and special schools, the stakeholders need a framework of teaching and learning that can be effectively used to integrate children with disabilities into the regular classroom, which is generally assumed as a classroom for neurotypical students (Bourke, 2010). Agreeing to Tomlinson (2004), differentiated instruction is a process to ensure that all students learn, know how they learn, and enable them to demonstrate what they have learnt. The teacher must match the learning goals with the student's readiness levels, interests and selected means of learning. Tomlinson suggests that teachers can differentiate the teaching-learning process in four ways, i.e., content, process, product, and the learning environment. The concept of differentiation is rooted in the belief in accepting individual differences among students in their learning styles, interest, and environment (Algozzine & Anderson, 2007). Therefore, differentiated instruction is known as a flexible and organized strategy to adjust the teaching-learning process as per the need of the child's learning to maximize the potential and ensure success (Tomlinson, 1999). It is also imperative to focus on pre and ongoing assessment to know their learning level and process as it helps teachers to improve their strategies and ways to differentiate instructions according to the needs of the child. Although delivery of instruction has been considered an important skill to prepare teachers, however, it was followed as one size fits all. Previously, the focus of delivering instructions was content-centred, whereas differentiation was student-centred. It targets the use of appropriate instructional and assessment tools to engage students with the curriculum in a fair, flexible, and meaningful way (Strickland, 2007).

The teacher is the most active actor among all stakeholders; therefore, differentiated instruction is more related to teachers being professionals (Wright, 2018). Only effective teachers who are trained to differentiate instructions can notice and deal with the diversity of needs in the classroom. Tomlinson (2000) suggests that students' success depends on the teachers' strategy to teach and engage them by keeping in view their interest, readiness, and learning profile. Therefore, the importance of teacher preparation for understanding and dealing with diversity is critical for the students 'success. Rachmawati, Nu'man, Widiasmara, and Wibisono (2016), also add to this fact and explain the diversity in

the classroom. According to him, students can be different and unique in their weaknesses, strengths, and abilities, and these traits can be influenced by their gender, ethnicity, living environment, and socioeconomic status. Any student who is different from the peer group in these traits is considered a student with special needs (Finkelhor, Turner, Ormrod, & Hamby, 2009). Tomlinson et al. (2003) also highlight gifted children among those students who have special needs to deal with their intelligence and creativity. Gifted children also need specialized differentiated instructional plans to engage them in productive activities. Research studies indicate that the underachievement of gifted children is also the result of one size fits all curricula. The engagement of all learners, including gifted children, is the key to success for a school (Winebrenner, 2001; Assouline & Gross, 2004). Despite understanding the need for well-prepared teachers to respond to students' diversity and address their needs, few forms of research have been conducted yet to explore the preparation and usefulness of differentiated instruction (McCray & McHatton, 2011; Sands & Barker, 2004; Wertheim & Leyser, 2002). Moreover, it also reported that the majority of teachers are even not aware of the term differentiated instruction and its practice in the general classroom (Adams, 2020; De Neve, Devos, & Tuytens, 2015).

Use of Differentiated Instructions in Pakistan

The country has separate streams for the education of all children; regular schools, special schools, and non-formal literacy school. Regular schools allow access only for typical neuro students, children with disabilities are entitled to get admission only in segregated special schools, and other marginalized groups, i.e., street children, children in labour, overage children and children of nomads, can get enrolled in non-formal setup. Despite these multi-streaming and various efforts, a large number, more than 22 million children, are out of school in the country (UNICEF, 2021). This mountainous challenge realized the stakeholders understand the importance of inclusive education, which has been practised and suggested as the best strategy to deal with the educational challenges of a country (Manzoor, Hameed, & Nabeel, 2018). The same has been an argument by Sustainable Development Goal 4, which requires signatory countries to ensure equitable, inclusive and lifelong learning for all children(Manzoor & Hameed, 2019). According to National Education Policy (2017), Inclusive education is defined as a process of addressing and responding to the diversified needs of all children. It also emphasizes increasing their participation in community and school by breaking all barriers that keep them excluded and out of reach. The policy also confirms that it is the responsibility of regular schools to make arrangements for inclusive education. As per the national definition of inclusive education, regular schools are responsible for making learning and instruction accessible for all learners. An inclusive school is a nearby school where all children have equal rights to quality education and a learning environment (Manzoor, 2018). If we analyze the literature on differentiated instructions in Pakistan, it can be found that this concept has flourished here in recent years. Few studies in Pakistan have been conducted during the last decade to explore the understanding and practice of differentiated instructions in the classroom (Roberts-Lieb, 2020). This term was coined in Pakistan with the popularity and acceptance of inclusion in education, and now it's in trend as a subgroup of this concept. However, this concept is more common in meeting the unique needs of children with disabilities in special education institutions (Iqbal et al., 2020). Findings of a study by Asim et al. (2015) indicated that the use of differentiated instruction is mostly used by those teachers who believe in equity and offer flexible instructions to their students who have diverse needs.

Another study by (Iqbal et al., 2020) highlighted that majority of the teachers in the country are practising differentiated instructions unknowingly. It means they are using various flexible teaching methods which

come under the umbrella of the term differentiated instructions, but they are unable to report on this. Moreover, the use of these strategies is more common at the primary level (Uzair-ul-Hassan, Kazim, & Parveen, 2019). The study also found that teachers were practising these instructional strategies to consider individual differences, providing opportunities to the students for group and independent learning, empowering students to evaluate circumstances, encouraging students to compare and contrast thoughts, and enabling students to create and refine their ideas. Teachers were also of the view that differentiated instructions have a positive impact on students learning and add to student success by giving them freedom of choice in their learning; engaging in the collaborative learning environment. The benefits of differentiated instructions were not limited to students' success. Rather it proved to have better outcomes for a collaborative approach in the classroom, and students become responsible not only for their growth but also for the growth of their class fellows. The findings of the above indigenous studies conclude that teachers have positive attitudes and skills to practice methods that are used in differentiated instructions. However, the majority of them are not aware of this term and have no pre-service or in-service training to use it effectively in their classroom. Therefore, the current study is an effort to assess the perceptions and understandings of pre-service teachers that may help teacher educators to design and revisit the curriculum and content on pedagogies and instructions.

Objectives of the Study

The present study intends to:

1. Explore the understanding of prospective teachers about the use of differentiated instructions to accommodate diverse learners in the classroom.
2. Compare the perception of prospective teachers on differentiated instructions on the basis of the enrolled program, i.e., B.Ed. Hons. Education and B.Ed. Hons. Special Education.
3. Investigate the effect of studying a course 'inclusive education' on the perception of prospective teachers.

Method & Procedure

This was a descriptive study with a focus on investigating the perceptions of prospective teachers about differentiated instructions. For this purpose, Differentiated Instruction Scale DIS designed by (Roy et al., 2015) was used. The DIS scale was developed and designed to explore teachers' perceptions on two factors, i.e., the first one is instructional adaptations (the difficulty level of tasks and students' abilities), and the second is academic progress monitoring (students' information to make choices and adjust teaching methods accordingly). It consists of two parts; part 1 is about demographics, and part 2 is the scale of 12 items in total. The reliability of the scale was measured by using Cronbach's alpha which turned out to be .934. The reliability of the subscales was (instructional adaptations) .92 and (monitoring academic progress) .91, which was better than 0.70 and considered good (Ebersole et al., 2020) for prospective teachers from two teacher training programs, i.e., B.Ed. Hons Education and B.Ed. Hons. were the sample of the study. These prospective teachers belong to the University of Education, Lahore and Islamia University of Bahawalpur. The Differentiated Instruction Scale was designed in Google survey form. Due to university closures and pandemic situations, a survey was conducted online, and the sample was selected using a convenient method. Data were collected through google form by using various online sources, i.e., Email, Facebook & WhatsApp.

Analysis & Findings of the Study

Data analysis was done by Statistical Package of Social Sciences version 26. Following are the findings of descriptive and inferential statistics:

Table 1. Demographics(Gender, Age, Qualification)

Attribute	Frequency	Percentage
Gender		
Male	24	14.8
Female	138	85.2
Total.	162	
Qualification		
Equivalent to FA/FSc	26	16.0
FA	39	24.1
FSc	97	59.9
Degree Program		
BS/B.Ed. Education	118	72.8
BS/B.Ed. Special Education	44	27.2
Enrolled In		
Sem 1	8	4.9
Sem 2	6	3.7
Sem 3	50	30.9
Sem 4	10	6.2
Sem 5	37	22.8
Sem 6	5	3.1
Sem 7	40	24.7
Sem 8	6	3.7
IE Course Attended or Not		
Course on IE Attended	99	61.1
Course on IE Not Attended	63	38.9

Demographics in table 1 show that there was a total of 162 respondents (prospective teachers) in the study, among which 85.2 % were females and 14.8 % were males. The distribution of gender seems appropriate as the enrolment in teaching programs also has a higher number of females. The majority, 72.8%, of these respondents were enrolled in B.Ed. /BS Hons. 4 years Education (General) and 27.2 % were enrolled in B.Ed./BS Hons. Special Education Program. Table 1 also indicates that prospective teachers from all eight semesters were the respondents of the study, among which the majority were studying in Semesters 3, 5, and 7. The majority, 61.1 % of prospective teachers, have completed the course on inclusive education during the program.

Table 2. Independent Sample T- test Comparing Opinions of Prospective Teachers Based on Enrolled Teacher Training Program

Type of program	*n*	*Mean*	*S. D*	*T*	*Sig*
BS/B.Ed. (Hons) Edu.	118	47.042	9.154	.902	.038
BS/B.Ed. (Hons) Spl. Edu.	44	45.431	12.329		

An Independent sample t-test was used to compare the perceptions of prospective teachers based on enrolled programs Bs/B.Ed. Hons Special Education and BS/B.Ed. Hons. Education. Results in Table 2 indicate that there were no significant differences (*r (df)* .160 *p .368)* in scores of prospective teachers who are enrolled in BS/B.Ed. Hons. Education program (*M 47.04*, *SD 9.154*) and prospective teachers enrolled in Bs/B.Ed. Hons Special Education (*M*45.431, *SD* 12.329). The magnitude of the difference in the means (means difference .160, 95% *C -2.469* to 5.690) was very small.

Table 3. Independent Sample T-test Comparing Opinions of Prospective Teachers Based on Gender

Type of Program	*N*	*Mean*	*S. D*	*T*	*Sig*
Male	99	46.757	10.563	.240	.532
Female	63	46.365	9.40367		

Another independent sample t-test was used to compare the perceptions of prospective teachers based on gender. Results in Table 2 indicate that there were no significant differences (*r (df)* 160 *p .810)* in scores of prospective male teachers (*M 46.757*, *SD 10.563*) and prospective female teachers (*M* 46.365, *SD* 9.403). The magnitude of the difference in the means (means difference 160, 95% *C* -2.831 to -2.752) was very small.

Table 4. Factor Loadings in Differentiated Instruction Scale

Variable	Cronbach Alpha	F1	F2
Instructional Planning and Evaluation (IPE)			
Adaption of lesson plan format	.93	.69	
Adjustment of the quantity of work needed by students' abilities		.79	
Evaluation of the usefulness of teaching adjustments		.85	
Analyzing data for monitoring students' performance		.71	
Provision of additional support to weak students		.79	
Adaptations for Instructional Strategies (AIS)			
Using students' data for making choices in teaching	.93		.56
Using alternative materials to balance students' capabilities			.82
Modifying aims & expectancies for students having difficulties			.64
Planning alternative tasks to match students' capabilities			.77
Adaptation in modes of evaluations			.68
Formative Assessment for improvement rate among low achievers			.62
Altering the difficulty level of assignments			.72

A confirmatory factor analysis was applied on the Differentiated Instruction Scale to explore the perceptions of prospective teachers for practising differentiated instructions in the teaching-learning process. The principal component with Verimox solution resulted in two factors. The first factor, "Instructional planning & evaluation," consisted of five items, second factor, "Adaptations for instructional strategies," consisted of seven items with 62.490 variances explained. The Chi-Square of the test turned out to be 81.504, and the goodness of scale was 7.1, which means the data is fit enough to explain and extract the factor solution. The extracted two factors (Instructional planning & evaluation; Adaptations for instructional strategies) from this data vary from the factors (instructional adaptations, academic progress monitoring) extracted by (Roy et al., 2015). The possible cause of this variation that popped up from the data could be due to the teaching-learning patterns of the prospective teachers. It might be possible that prospective teachers have not studied specific course material on the use and implementation of differentiated instructions, so they are somehow well aware of the basic concept of differentiated instructions that are found in factor one (instructional planning & evaluation) and they have less knowledge and skills to implement differentiated instructions which are factor two (Adaptations for instructional strategies).

Table 5. Rank and Ratings of Differentiated Instructional Strategies by Prospective Teachers

Strategies	Mean	Rank
Provision of additional support to weak students	4.04	1
Analyzing data for monitoring students' performance	3.98	2
Planning alternative tasks to match students' capabilities	3.95	3
Adjustment of the quantity of work needed by students' abilities	3.94	4
Adaption of lesson plan format	3.90	5
Using alternative materials to balance students' capabilities	3.88	6
Altering the difficulty level of assignments	3.87	7
Adaptation in modes of evaluations	3.86	8
Evaluation of the usefulness of teaching adjustments	3.85	9
Using students' data for making choices in teaching	3.83	10
Formative Assessment for improvement rate among low achievers	3.81	11
Modifying aims & expectancies for students having difficulties	3.68	12

To investigate the use and frequency of various differentiated instructional strategies by prospective teachers, the ratings of all respondents were computed, and the mean ratings of all the respondents were used to determine the rank and rating of the strategies. The items with the high means were considered the most used. The results in Table 5 show that the most frequently used strategies were 1. 'Provision of additional support to week students' has been used and assumed most suitable strategy with the highest (mean: 4.04); 2. 'Analyzing data for monitoring students' performance' with (mean: 3.98); 3. 'Planning alternative tasks to match students' capabilities' (mean: 3.95); 4. 'Adjustment of the quantity of work needed by students' abilities, (mean: 3.94). The data in table 5 shows that the least frequently used strategies were: 1. Modifying goals and expectations for students with difficulties mean (3.68); 2. Assess low achievers' rate of improvement frequently mean (mean: 3.81); 3. Use students' data to make decisions about teaching adjustments (mean: 3.83). The results of the table show that prospective teachers are more comfortable applying those strategies that require less preparation and modifications in making adaptations to the instructions. Prospective teachers also find it difficult to make continuous assessment protocols to monitor students' progress and hesitate to make the differentiated instructions as part of the decision-making in evaluation.

Conclusions & Discussions

It can be concluded from the results of this study that all the prospective teachers participating in this study perceive the same differentiated instructions despite being enrolled in two separate programs, i.e., BS/B.Ed. (Hons) Education and BS/B.Ed. (Hons) Special Education. It was found in previous studies that most frequently differentiated instruction was talked about as well as used in special education, so prospective teachers belonging to general education can have lesser information about differentiated instruction (Hallahan, Pullen, Kauffman, & Badar, 2020). However, this study revealed different results that all prospective teachers belonging to either field know differentiated instruction.

Another conclusion drawn from this study was that the male and female perspective teachers have the same opinions about differentiated instructions, and no gender discrimination was found in similar studies (AlSadrani, Alzyoudi, Alsheikh, & Elshazly, 2020). Analyzing the population working in the area of education and special education, it can be found that more females are serving in the field of education than males as well as there are more females enrolled in Education and Special Education programs than males. This proportion of teachers has been found in studies by (Rousso, 2015). It is usually assumed that females have different opinions than males

about various issues, but this study found that there is no difference in opinion based on gender.

Furthermore, it can be concluded that in this study, two factors, i.e., "instructional planning and evaluation" and "adaptations for instructional strategies," were extracted while exploring the perceptions of prospective teachers about the use of differentiated instructions. These two factors were different from factors found during a previous study (Roy et al., 2015). The possible reasons may be because prospective teachers did not study specific courses on differentiated instructions. Prospective teachers had more understanding of the first factor, i.e., instructional planning, than the second factor, i.e., adaptations for instructional strategies.

Moreover, prospective teachers, while ranking ten differentiated instructional strategies in this study, opine that providing low progressing students with additional support or tools was the best strategy, analyzing data about students' academic performance was a better strategy, and planning various tasks to match students' abilities was declared good strategy. Other seven differentiated instructional strategies were also rated by the prospective teachers, and at the bottom was modifying goals and expectations for students with difficulties. Thus, it can be concluded that pre-service teachers have a good understanding of differentiated instructions, but they are less knowledgeable about the adaptation of instructions and appropriate use of these various instructional methods. In conclusion, drawn from this study, it can be suggested that teacher educators make necessary revisions and addition to the content of teaching methods and pedagogies of teacher training programs so that future teachers may be well trained to practice these skills in the classroom for the inclusion of all children in learning.

References

Adams, A. A. (2020). Teacher and Student Perceptions of Differentiated Instruction and Its Effect on Student Achievement. Trevecca Nazarene University,

Algozzine, B., & Anderson, K. M. (2007). Tips for Teaching: Differentiating Instruction to Include All Students. *Preventing School Failure: Alternative Education for Children and Youth, 51*(3), 49–54. https://doi.org/10.3200/psfl.51.3.49-54

AlSadrani, B., Alzyoudi, M., Alsheikh, N., & Elshazly, E. E. (2020). The Digital Divide in Inclusive Classrooms. *International Journal of Learning, Teaching and Educational Research, 19*(3), 69–85. https://doi.org/10.26803/ijlter.19.3.5

Asim, M., Abdan, K., Jawaid, M., Nasir, M., Dashtizadeh, Z., Ishak, M. R., & Hoque, M. E. (2015). A Review on Pineapple Leaves Fibre and Its Composites. *International Journal of Polymer Science*, 1–16. https://doi.org/10.1155/2015/950567

Bourke, P. E. (2010). Inclusive education reform in Queensland: implications for policy and practice. *International Journal of Inclusive Education, 14*(2), 183–193. https://doi.org/10.1080/13603110802504200

Brehm-Stecher, B. F., & Johnson, E. A. (2003). Sensitization of Staphylococcus aureus and Escherichia coli to Antibiotics by the Sesquiterpenoids Nerolidol, Farnesol, Bisabolol, and Apritone. *Antimicrobial Agents and Chemotherapy, 47*(10), 3357–3360. https://doi.org/10.1128/aac.47.10.3357-3360.2003

De Neve, D., Devos, G., & Tuytens, M. (2015). The importance of job resources and self-efficacy for beginning teachers' professional learning in differentiated instruction. *Teaching and Teacher Education, 47*, 30–41. https://doi.org/10.1016/j.tate.2014.12.003

Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems, 49*(1), 5–22. https://doi.org/10.1177/0047239520934018

Ebersole, C. R., Mathur, M. B., Baranski, E., Bart-Plange, D.-J., Buttrick, N. R., Chartier, C. R., & IJzerman, H. (2020). Many Labs 5: Testing pre-data-collection peer review as an intervention to increase replicability. *Advances in Methods and Practices in Psychological Science, 3*(3), 309-331.

Erich, A. (2018). The Role of Public Libraries in Non-Formal Learning. *Revista Romaneasca Pentru Educatie Multidimensionala, 10*(3), 17–24. https://doi.org/10.18662/rrem/59

Finkelhor, D., Turner, H., Ormrod, R., & Hamby, S. L. (2009). Violence, Abuse, and Crime Exposure in a National Sample of Children and Youth. *Pediatrics, 124*(5), 1411–1423. https://doi.org/10.1542/peds.2009-0467

Hallahan, D. P., Pullen, P. C., Kauffman, J. M., & Badar, J. (2020). *Exceptional learners*. In Oxford Research Encyclopedia of Education.

Hyun, E. (2003). What Does the No Child Left Behind Act Mean to Early Childhood Teacher Educators?: A Call for a Collective Professional Rejoinder. *Early Childhood Education Journal, 31*(2), 119–125. https://doi.org/10.1023/b:ecej.0000005311.05637.c4

Iqbal, M. M., Abid, I., Hussain, S., Shahzad, N., Waqas, M. S., & Iqbal, M. J. (2020). The effects of regional climatic condition on the spread of COVID-19 at global scale. *Science of The Total Environment, 739*, 140101. https://doi.org/10.1016/j.scitotenv.2020.140101

Lawrence-Brown, D. (2004). Differentiated instruction: Inclusive strategies for standards-based learning that benefit the whole class. *American secondary education*, 34-62.

Levy, R. (2008). Expectation-based syntactic comprehension. *Cognition, 106*(3), 1126–

1177. https://doi.org/10.1016/j.cognition.2007.05.006

Manzoor, A. (2018). A Child on Crossroad of Two Isolated Worlds. *UMT Education Review, 1*(2), 1-18.

Manzoor, A., & Hameed, A. (2019). Hopes of Out of School Children with Disabilities for Educational Inclusion. *Journal of Research & Reflections in Education,* 13(1),

Manzoor, A., Hameed, A., & Nabeel, T. (2018). Voices of Parents about their Out of School Children with Disabilities. *Journal of Inclusive Education, 2*(1), 77-92.

McCray, E. D., & McHatton, P. A. (2011). " Less afraid to have them in my classroom": understanding pre-service general educators' preceptions about inclusion. *Teacher Education Quarterly, 38*(4), 135-155.

McLoughlin, C. (2001). Inclusivity and alignment: Principles of pedagogy, task and assessment design for effective cross-cultural online learning. *Distance Education, 22*(1), 7–29. https://doi.org/10.1080/01587910102201 02

McTighe, J., & Brown, J. L. (2005). Differentiated Instruction and Educational Standards: Is Detente Possible? *Theory Into Practice, 44*(3), 234–244. https://doi.org/10.1207/s15430421tip4403_8

Rachmawati, M. A., Nu'man, T. M., Widiasmara, N., & Wibisono, S. (2016). Differentiated Instruction for Special Needs in Inclusive Schools: A Preliminary Study. *Procedia - Social and Behavioral Sciences, 217*, 585–593. https://doi.org/10.1016/j.sbspro.2016.02.053

Rock, M. L., Gregg, M., Ellis, E., & Gable, R. A. (2008). REACH: A Framework for Differentiating Classroom Instruction. *Preventing School Failure: Alternative Education for Children and Youth, 52*(2), 31–47. https://doi.org/10.3200/psfl.52.2.31-47

Roy, A., Guay, F., & Valois, P. (2015). The big-fish–little-pond effect on academic self-concept: The moderating role of differentiated instruction and individual achievement. *Learning and Individual Differences, 42*, 110–116. https://doi.org/10.1016/j.lindif.2015.07.009

Sands, D. I., & Barker, H. B. (2004). Organized chaos: Modeling differentiated instruction for pre-service teachers. *Teaching & Learning, 19*(1), 26-49.

Tobin, R., & Tippett, C. D. (2014). Possibilities and potential barriers: Learning to plan for differentiated instruction in elementary science. *International Journal of Science and Mathematics Education, 12*(2), 423-443.

Tomlinson, C. A. (1999). Mapping a route toward differentiated instruction. *Educational leadership, 57*, 12-17.

Tomlinson, C. A. (2001). Differentiated Instruction in the Regular Classroom: What Does It Mean? How Does It Look? *Understanding Our Gifted, 14*(1), 3-6.

Tomlinson, C. A. (2004). Sharing responsibility for differentiating instruction. *Roeper Review, 26*(4), 188.

Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A., & Reynolds, T. (2003). Differentiating Instruction in Response to Student Readiness, Interest, and Learning Profile in Academically Diverse Classrooms: A Review of Literature. *Journal for the Education of the Gifted, 27*(2–3), 119–145. https://doi.org/10.1177/016235320302700203

Uzair-ul-Hassan, M., Kazim, B., & Parveen, I. (2019). Teachers' Practices of Differentiated Instructions, Fair Interactions and Fair Assessment of Students in Sargodha. *Journal of Educational Sciences, 6*(1), 47-62.

Voltz, D. L., & Fore, C. (2006). Urban Special Education in the Context of Standards-Based Reform. *Remedial and Special*

Education, 27(6), 329–336. https://doi.org/10.1177/074193250602700060201

Wertheim, C., & Leyser, Y. (2002). Efficacy Beliefs, Background Variables, and Differentiated Instruction of Israeli Prospective Teachers. *The Journal of Educational Research, 96*(1), 54–63. https://doi.org/10.1080/00220670209598791