Open Distance Learning: Bridging the Gap between Instructional Planning and Prescribed Standard

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Abstract

This research paper aimed to study the prevailing levels of instructional planning and strategies according to three criteria i) Comprehension, ii) Behavior iii) Performance possessed by the teachers in secondary schools, the relationship among the prevailing levels of the three criteria of instructional planning and strategies of teachers teaching at secondary level. It was a mixed methods research study. The sample consisted of 400 secondary school teachers from the four provinces and Islamabad capital territory selected through multistage sampling. The qualitative data related to Open Distance Learning (ODL) system was collected through interview. The results showed a significant relationship among the criteria of instructional planning and strategies, and significant difference between the prevailing levels of three criteria of instructional planning and strategies possessed by the secondary school teachers and the prescribed standard of these criteria in the National professional standards for teachers in Pakistan. Data triangulation for self-reporting tools from secondary school teachers) questionnaire (Comprehension criterion) was cross checked through interview and observation data which collectively identified the gap between the prescribed standard and the instructional planning in use at secondary level. The analysis of the interview revealed that the ODL system can provide assistance by introducing capacity development courses on instructional planning and strategies in blended as well as online modes.

Keywords: Open distance learning (ODL), teacher education, comprehension, behavior, performance, instructional planning and strategies

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Introduction

ODL has emerged as a contributing force to social and economic development; it is being rapidly accepted as indispensable counterpart of the mainstream education system all over the globe especially in developing nations. It plays its part by utilizing new technologies in education system and through these innovations paving the road to access education and training for the masses and deprived sections of the society. Distance learning gained importance due to the two major distinct factors: the ever growing need of continuous skills up grading and re-training; and the advancement in technology which provided an opportunity to include more and more people irrespective of distance. In Pakistan the government launched professional standards for teachers in 2009 which were unanimously endorsed by the four provinces along with the federal capital. These standards precisely outline the specific expectations from the teachers on the criteria of comprehension, behavior and performance. Briefly, these professional standards encompassed all the dimensions of teacher training and education. The comprehension criterion focuses on the knowledge of the fundamental elements of effective teaching practice, the behavior criterion indicates the attitudes which correspond to the traits and qualities valued by teachers and the performance criterion demonstrates the application of that knowledge. According to Mahmood & Salfi (2012) the main theme about standards is that they provide a base for a more rigorous system of certification, enhanced productivity of programs of induction and pre-service, and more significant professional development.

Teachers are the game changers in reforming, improving and expanding the education system of a country. In the last decade the education has broadened its reach to fulfill the global commitments such as 'Education for All (EFA)' and 'Millennium Development Goals (MDGs)'. However, across the globe teaching profession is up against a critical situation. Reports state that to achieve the EFA and MDGs 18 million teachers are required in the specified time period (UNESCO, 2007, 2008). Therefore, in Pakistan reforms in teacher education are launched to manage the issue of quality teaching. Global evidences claim, 'Countries that have achieved high learning standards have invested heavily in the teaching profession' (UNESCO, 2005b, p. 3).

The process of professional development of teachers transforms them throughout their career. The ODL system is playing its role by contributing substantially towards the professional development of teachers as 'school standards and professional standards are inextricably

linked, and the need for a teaching force that is flexible and adaptable to the impact of rapidly changing structures of work and leisure' (Moon, 1997, p.8).

This article identified the gap between the prescribed standard of instructional planning and the prevailing situation in the country at secondary level and how this gap can be bridged through ODL.

Open Distance Learning

ODL has evolved as a solution to the problem of educating the masses in Pakistan. ODL is expanding its wings with the advent of technology-based learning which has increased the access of masses to the available education facilities in the country. In Pakistan ODL system has introduced ICT-based programs which combine traditional mode that includes internet based correspondence courses and face-to-face teaching. This system has enabled Pakistan to enhance its educational outreach to the students, teachers or any other person while ignoring their demographic features in an economical way (Akhtar, 2016).

The cost-efficiency of distance education has enabled a large segment of the society to empower themselves and upgrade their existing status through education. It is imperative for Pakistan to overcome the hurdles of ODL system and broaden its base to actualize the dream of "education for all" by providing unrelenting support for programs of distance learning.

Continuous Professional Development (CPD) through ODL

Teachers pre-service education and training is no more considered enough. Therefore, distance education is being used as a means of raising the skills, enhancing understanding and updating the knowledge of teachers. Different programs are offered in general and specialized categories. These programs can be taken on individual or group basis according to the needs of the teachers. These kinds of programs are being offered by IndiraGandhi National Open University, India. Similar programs are also offered at the University of South Africa.In China programs are developed for the up gradation of qualification of teachers as per the policy provisions related to new national standards.

These and many other examples show that planners have preferred ODL system to cater for the needs of their widely distributed audiences. This has practically benefited them in the long run in terms of CPD of

individual teachers in particular and their education system in general (UNESCO, 2002).

Professional Standards

The world is changing at a great speed to keep pace with this rapid change the professional standards may prove helpful for the smooth working and maximum cost and time effectiveness of any profession. The provision of quality education to all its citizens is the foremost duty of the government. The government of Pakistan is committed to this task, in order to amicably accomplish the task measures are being taken to improve the prospects of programs for teacher education and training country wide. If the aim is to produce competent teachers who can compete globally then international standards of quality teacher education and training must be implemented. To date the government is making effort for the achievement of quality teacher education which is directly related with quality student outcome. Since teaching is an art and science of transferring knowledge methodically, the way this transfer should take place must be of optimum consideration.

Instructional Planning and Strategies (IPS)

The term IPS is explained as the methodology for organizing the content, specifying activities for improved learning, and decision making as to the delivery of content and execution of activities (Wong & Harry, 1998). The document of National professional standards for teachers in Pakistan (NPSTP) explains IPS in terms of teachers understanding, designing short and long-term plans for achieving the curriculum goals by applying various strategies for the promotion of critical thinking, problem solving a performance of the students. The standard of IPS is based on the following three criteria which further have several indicators:

1. Comprehension. Teachers have the knowledge and understanding of i) the educational and curricular aims, goals and objectives for particular subjects and the realization of the key role of IPS. ii) Attainment of the principles of 3 R's at different developmental stages. iii) Promotion of students' attention through the use of technology and relevant resources. iv) Planning instructions according to the needs, previous knowledge and developmental stages of the students. v) Facilitating instruction and promoting thinking through variety of instructional approaches and technologies

through modification of available resources. vi) Effect of homework and related co-curricular learning activities. vii) Teaching methodologies focusing subject specific methods for teaching and management practices.

2. Behavior. Teachers' commitment and value attachment to: i) the achievement of the defined objectives. ii) inculcating the ability of critical thinking, problem solving and performance in students. iii) collaborative and cooperative teaching and learning strategies. iv) versatile problem-solving strategies.

3. Performance. Teachers' engagement in activities related to: i) identification and designing instruction according to students' developmental stages, different styles of learning, requirements. ii) culture of the school, classroom and society. iii) evaluation of curriculum and material for presenting specific concepts. iv) homework and other activities which corroborate learning. v) linking the learning of students with personal growth. vi) achieving objectives of the lesson through use of multiple resources and technologies. vii) different methods of assessment which provide opportunities for reflection and revision of teaching. viii) interdisciplinary teaching.

The above mentioned indicators of IPS provide basis for the measurement of each criterion independently and also collectively as a whole standard.

Darling-Hammond (2003) stated that the classroom shows the real effectiveness of training received by the teacher. The effectiveness of teaching is portrayed in the activities conducted in the classroom and especially the instructional plan a teacher applies in classroom teaching. The process of effective instructional planning and strategies requires sound professional education and training.

Saad & BouJaoude (2012) reported correlation between comprehension of teachers and their views about science and inquiry in the daily classroom teaching which revealed that majority of teachers had rigid views regarding the characteristics of science and their beliefs and responses regarding inquiry were unfavorable. Besides, the correlation between classroom practices and beliefs of teachers about views of nature of science were also not consistent.

Divergent to these results Chen & Chang (2006), reported that the framework of whole teacher approach and professional development demonstrates considerable relationship between the two variables. A significant relationship was found among the behavior, practices and performance of teachers with respect to whole teacher approach in a technology related program.

Gencturk (2012) explored the relationship among teachers' comprehension of mathematical, their classroom performance, and the achievement of students. The results revealed intricate relationship between the comprehension of mathematics of teachers and their performance related to instructional practices. Teachers' behavior played a mediating role in this relationship.

Another study done by Atta, Aziz, Hassan & Ahmad (2012), which focused on "National Professional Standards for Teachers and Classroom Practices" revealed that teachers in public sector possessed the knowledge of subject matter but showed deficiency in planning the lesson and assessment techniques. The study recommended that the public sector teachers must be aware of significance of National professional standards and instructional planning should be mandatory for them.

Objectives of the Study

The present study aimed to:
i) examine the prevailing levels of instructional planning and strategies (IPS) possessed by secondary school teachers (SSTs) in the following three criteria i.e. comprehension of the content of IPS, behavior (attitudes, beliefs and value towards IPS) and performance (practices of IPS).
ii) determine the relationship among the prevailing levels of IPS of SSTs on the three criteria according to the National professional standards in Pakistan.
iii) find out the difference between the prevailing levels of IPS possessed by the SSTs in the three criteria and the required standard of the three criteria of IPS.
iv) identify the means through which ODL can enhance the capacity development of SSTs.

The following research question and hypotheses served as the bases for the study:
1.   What are the prevailing levels of IPS of in-service SSTs?
H_01: There is no significant relationship among the prevailing levels IPS of SSTs on the three criteria (Comprehension, Behavior and Performances).
H_02: There is no significant difference between the prevailing levels related to all the three criteria of IPS possessed by SSTs and the desired standard of all the criteria of IPS.
2.   How can ODL system help in the capacity development of in-service SSTs?

Methods

Data collection and Participant

It was a mixed methods research study using quantitative-qualitative exploratory design of research. The area of the study was selected through multistage sampling; in the first stage one district from each of the four provinces was selected through convenient sampling along with Islamabad Federal Capital. Further in the second stage from each district one Tehsil (administrative division) was selected randomly including Islamabad Federal Capital. In the third stage proportionate stratified sampling was done to select the 80 secondary school principals which fulfilled the purpose of the study and at the fourth stage 5 SSTs from each school 5×80= 400 and 3 secondary class students for each teacher 400 × 3= 1200 were selected randomly. Four participants were selected for interview related to ODL system.

Responses were received from 345 secondary school teachers (SSTs). Total response rate was 86%.

Instruments (Quantitative)

The research tools i.e. questionnaire, Teacher Behaviors Inventory, Students' scale for measurement of teachers' behavior and two rating scales (one for teachers and the other for principals) for measuring the criterion wise IPS levels of in-service SSTs were developed on a five point Likert scale, whereas structured interview and observation checklist were used to collect the data.

Criterion 1: Comprehension (7 indicators, 50 items): Self-report questionnaire, observation and interview included the concepts related to comprehension of the content of instructional planning and strategies. For the Comprehension criterion the calculated reliability of questionnaire was .92.

Criterion 2: Behavior (3 indicators, 42 items): Teacher Behaviors Inventory and Students' scale for measurement of teachers' behavior were designed to determine the level of behavior of SSTs. The calculated reliability for the tool was .82.

Criterion 3: Performance (8 indicators, 20 items): Two rating scales to assess the performance of the SSTs were developed with the reliability of .97.

Qualitative Data

An interview protocol was developed to collect the data related to what initiatives ODL system may take for the capacity development of in-service teachers in the area of instructional planning and strategies.

Quantitative Data

To compare the prevailing levels of IPS with the desired levels of all the three criteria, the standard was quantified.

Quantification of the Standard of IPS According to the Three Criteria

The quantification of the standard of IPS according to the three criteria was done by calculating the scores of SSTs in all the three criteria (Comprehension, Behavior and Performance) as per the National Professional Standards for Teachers in Pakistan (NPSTP) rubrics. Table 1 shows the detail.

Table1

Quantification of IPS standard according to three criteria

Dimensions ⟶ Levels and Range ↓	Comprehension Score	Behavior Score	Performance Score
Level 1: The teachers do not show demonstration ability	50	42	20
Range 1	(50---104)	(42---83)	(20---39)
Level 2: The teachers have difficulty in demonstrating the ability	105	84	40
Range 2	(105---159)	(84---125)	(40---59)
Level 3: The teachers show satisfactory ability of demonstration	160	126	60
Range 3	(160---214)	(126---167)	(60---79)
Level 4: The teachers show good demonstration ability	215	168	80
Range 4	(215---269)	(168---209)	(80---99)
Level 5: The teachers have excellent ability of demonstration (desired score)	270	210	100

Table 1 signifies the levels according to range and the desired score on each criterion of IPS on the basis of NPSTP five level rubrics.

The prevailing levels on each criterion of IPS possessed by SSTs were calculated by computing the scores of the respondents (SSTs, n=345) exclusively for each criterion. The prevailing levels regarding IPS on each criterion of SSTs are presented in frequencies and percentages. Table 2 shows the detail.

Table 2
The prevailing levels of the three criteria of IPS possessed by SSTs (n=345)

Criteria	Comprehension				Behavior				Performance			
Levels	DSR	PSR	F	%	DSR	PSR	F	%	DSR	PSR	F	%
Level 1	50-104	-	-	-	42-83	-	-	-	20-39	-	-	-
Level 2	105-159	121-158	10	2.9	84-125	105-124	3	.9	40-59	50-59	10	2.9
Level 3	160-214	164-214	256	74.2*	126-167	126-167	113	32.7	60-79	60-79	145	42
Level 4	215-269	215-235	79	22.9	168-209	168-205	229	66.4*	80-99	80-99	189	54.8*
Level 5	270	-	-	-	210	-	-	-	100	100	1	.3
Total			345	100			345	100			345	100

*Highest %

Table 2 explains the prevailing levels of IPS on each criterion of IPS possessed by the SSTs.

1. Comprehension criterion.   In the Comprehension criterion 74.2% SSTs were in level 3 which is the satisfactory level, level 4 is secured by 22.9% SSTs which is good, 2.9% SSTs were at level 2 facing difficulty and none of the SSTs achieved neither level 5 the highest level of excellence and nor level one the lowest level which reports absence of comprehension of the content of IPS in SSTs.

2. Behavior criterion. 66.4% SSTs showed good behavior, 32.7% SSTs were placed in satisfactory level, .9% faced difficulty in behaving positively. None of the SSTs had excellent behavior or absence of any kind of behavior towards IPS.

3. Performance criterion. In the Performance criterion 54.8% SSTs showed good performance, 42% SSTs were satisfactory, 2.9% SSTs faced difficulty in activities related to IPS. None of the SSTs showed absence of activities in their teaching, whereas merely one teacher in secondary school (.3%) articulated his/her excellence in the Performance criterion.

Generally, the prevailing Comprehension levels showed the maximum percentage (74.25) of SSTs at level 3 (satisfactory), while the prevailing Behavior and Performance levels of SSTs demonstrated maximum percentages 66.4 and 54.8 respectively at level 4 (good).

To find out the association among prevailing levels of three criteria of IPS possessed by SSTs Pearson Product Moment Correlation was used. Table 3 shows the results.

Table 3

Correlation among the prevailing levels of the three IPS criteria

S/N	Criteria	Comprehension	Behavior	Performance
1	Comprehension	1		
2	Behavior	.36 (p=.000)	1	
3	Performance	.34 (p=.000)	.66 (p=.000)	1

Table-3 explains the relationship among prevailing levels of three criteria of IPS. The analysis revealed that;

i. The correlation between Comprehension and Behavior criteria is r = .36 which is significant at p= .000.

ii. The correlation between Comprehension and Performance criteria is r = .34 which confirms significance at p = .000.

iii. The correlation between Behavior and Performance criteria is r = .66 which establishes significance at p= .000.

To achieve the second objective and test the second hypothesis differential analysis was applied.

The difference between prevailing levels of three criteria of IPS possessed by the SSTs and desired level of these three criteria of IPS was calculated by applying one sample t- test shown in table 4.

Table 4

Difference between the prevailing levels of three criteria of IPS and the desired standard of these criteria

S. No.	Dimensions	Mean	Mdif.	SD	t-value
1	Comprehension	201.87	-68.128	17.43	-72.581 (p=.000)
2	Behavior	172.28	-37.719	17.45	-40.149 (p=.000)
3	Performance	79.57	-20.426	9.89	-38.377 (p=.000)

Table 4 reveals the mean score, mean difference, standard deviation and t-values of the prevailing levels of three criteria of IPS and the desired standard of three criteria of IPS.

1. Comprehension criterion. The mean scores, mean difference, standard deviation and t-value for the prevailing levels of Comprehension and its desired standard is M=201.9, M=270, Mdif.= -68.13, SD =17.43 and t= -72.58, p=.000 which shows significant difference.

2. Behavior criterion. The mean scores, mean difference, standard deviation and t-value for the prevailing levels of Behavior and its desired standard is M=172.3, M=210, Mdif.= -37.72, SD=17.45 and t= -40.15, p=.000 here the difference is also significant.

3. Performance criterion. The mean scores, mean difference, standard deviation and t-value of the prevailing levels of Performance and its desired standard is M=79.6, M=100, Mdif.= -20.43, SD= 9.89 and t= -38.38, p= .000 a significant difference is calculated. The differences are significant at p < 0 .001.

Triangulation. Data triangulation of the three criteria of IPS is done by applying Spearman's Rho for calculating rank order correlation given in table 5.

Table 5

Rank order Correlation of three IPS criteria

Sr.No.	Criteria	Rank order correlation	
1	Comprehension	Questionnaire	Observation
	Observation	.829 (.042)	1
	Interview	.493 (.321)	.551 (.257)
2	Behavior	Teacher behaviors inventory	
	Student scale for measurement of teacher behavior	.500 (.667)	
3	Performance	Rating scale for teachers	
	Rating scale for principals	.858 (.013)	

Table 5 reflects the rank-order correlation between questionnaire and observation is P=.8 significant, questionnaire and interview is P=.4 not significant; observation and interview is P=.6 not significant at p<0.05. The rank order correlation between the data of self reporting teacher behavior inventory and Student scale for measurement of teacher behavior is contradictory as P=0.5 which is not significant at p<0.05. The rank order correlation between the data from self rating of teachers and their rating by the principals is P=.90 significant at p<0.05.

Qualitative Analysis

The following themes emerged from the interviews.
1. ODL system can prove beneficial in enhancing the capacity of in-service SSTs.
2. Short courses for capacity development of in-service teachers in instructional planning may be offered in blended mode.
3. Online courses may be developed to facilitate the in-service SSTs.
4. Modular object-oriented dynamic learning environment (Moodle) can be helpful in offering online courses.

5. Massive open online courses (MOOCs) can be developed locally and offered according to the needs of the in-service SSTs in Pakistan.
6. Summer courses may be offered for the capacity development of in-service SSTs according to the IPS standard.

Findings

Majority of SSTs (74.2%) showed satisfactory ability of demonstration of Comprehension of the content of IPS. Only 29% SSTs had difficulty in the comprehension of the content of IPS. 22.9% SSTs showed good comprehension. There was no secondary school teacher who did not have any comprehension of the content of IPS. None of the SSTs was found on the excellence level which was the required level.

Maximum percentage of SSTs 66.4% showed good behavior towards IPS. One-third 32.7% SSTs revealed satisfactory behavior. The prevailing level of 9% SSTs had difficulty in demonstrating behavior towards IPS. None of the SSTs showed either poor or excellent behavior.

Most of the SSTs 54.8% were good in the Performance criterion of IPS. More than one-third 42% of SSTs showed satisfactory performance. 2.9% SSTs had difficulty in engaging in activities of IPS.

There was a significant association among the three criteria of IPS i.e. Comprehension, Behavior and Performance. There was a considerable difference between the three criteria and their required standards.

The comprehension criterion revealed convergence between the data of questionnaire and observation, whereas the data of questionnaire and interview as well as observation and interview were divergent. The data related to the behavior criterion filled by the students about their teacher behavior showed divergence from that of the self-reporting behavior inventory of teachers. In the performance criterion; self-rating of teachers was consistent with their rating done by the principals.

ODL system is the most economical solution for bridging the identified gap in the standard of IPS and the prevailing situation in the country. ODL is the only system which can target such scattered population. CPD courses may be developed and disseminated in every possible mode for maximum coverage and usability.

Discussion

The findings of the study identified the gap between what is and what ought to be, which may provide information to the teacher educators and professional developers as to the criterion of IPS which need training. Teaching in developing countries "what is" was evaluated according to the NPSTP "what ought to be".

The results of the study confirmed the correlation among all the three criteria of IPS. The major interrelationship of criteria of IPS proved confirmatory for the validity of the structure, identification of indicators and arbitrary measurement of all levels. Maximum association was found between Behavior (teachers value and are committed to) and Performances (teachers engage in activities), which seems logical as both criteria demands application of interdependent such instructional activities.

The findings of the present research are supported by the results of the study conducted by Atta, Aziz, Hassan and Ahmad in 2012 related to NPSTP which propagated that the teachers working in the public sector secondary schools demonstrated knowledge of subject matter but showed inefficiency in instructional planning and assessment techniques. They recommended that the exercise of instructional planning should be declared compulsory for the teachers.

The considerable association among the prevailing levels of the three criteria of IPS exhibited that when the prevailing levels in any one criterion of IPS are high they are deemed to be high in the other two criteria also and while they are low in any one criterion of IPS they are also low in the other two criteria also. These findings are supported by the results of Chen and Chang (2006) who reported that the teachers participating in their study demonstrated considerable degree of association among behavior, skills, and practices. A similar study conducted by Gencturk (2012) stated that the behavior of teachers proved as a mediator in the correlation between comprehension of teachers and their instructional practices. But, the research findings of Saad and BouJaoude (2012) showed no reliable correlation between teachers' behavior, comprehension and classroom practices.

The use of ODL in present study is similar to its utilization in China as reported by UNESCO (2002) where the official policy of new standards required teachers to upgrade their qualification and this target was achieved by the ODL system in the country. Likewise, ODL system in Pakistan can also serve this purpose amicably for this mode usually suites majority of the work force as it is economical as well as flexible

and according to Akhtar (2016) rapidly gaining popularity among the students and teachers alike for improving their knowledge and skills in related areas of their interest.

The findings of the study may be significant for the policy makers in the light of NPSTP, since no formal initiative has been taken by them to assess the effectiveness of these standards. Therefore, measures may be taken through different modes of ODL system to enhance the capacity of in-service teachers according to these standards and provide provision for training repeatedly throughout their professional career so they may come at power with the required teaching standard prescribed in the NPSTP.

Conclusion

According to the rubric of NPSTP most of the teachers possessed satisfactory comprehension of the content of IPS, whereas they demonstrated good Behavior towards IPS and further showed good engagement of IPS for enhanced Performance. The hypothesis of no significant relationship among the three criteria of IPS was rejected as significant relationship was found between Comprehension, Behavior and Performance. Whereas, observable difference was witnessed between the prevailing levels of IPS on all the three criteria and the desired levels of the three criteria of IPS, therefore the hypothesis of no significant difference between the prevailing and desired levels was rejected. This calculated difference signified the gap between the prevailing standard and the prescribed standard. The appraisal of IPS according NPSTP revealed that SSTs require substantial amount of in-service professional training in all the three criteria of IPS with varying degree in order to bridge the gap between the prevailing and prescribed standard of IPS.

Data triangulation substantiated the validity of data of SSTs self-reporting. It was observed that on the comprehension criterion the teachers portrayed themselves highly in interview; therefore, the data of interview was inconsistent with the questionnaire as well as observation, whereas consistency was found between the data of questionnaire and observation which implies that the self-reporting of teachers was reflected in their classroom practices also. For the behavior criterion the students rated their teachers very highly which generated inconsistency between their scoring of teacher and self-scoring of teacher. In the performance criterion the rating of teachers was convergent with their

rating by principals which implies that the principals are satisfied with the instructional practices of the teachers.

The qualitative data revealed that this identified gap between the prevailing and prescribed standard of IPS can be bridged through open distance learning by providing courses for capacity development of SSTs in blended and online modes in which summer courses may also be developed.

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