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Students' Perceptions about the Role of Psycholinguistics in Developing Pre/in-Service Teachers' Second Language Teaching Expertise: A Case Study of Virtual University of Pakistan

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Introduction

Psycholinguistics, a branch of cognitive science (Maftoon, 2012), is an integration of psychology and linguistics relating mental processes with linguistic development. It studies how the human mind processes when language is acquired. However, the movement is from individual behavior patterns to the social dimension of language acquisition (Purba, 2018), which differentiates it from sociolinguistics wherein the focus moves from society to individual learner. While Psycholinguistics studies all psychological dimensions of language learning, applied linguistics studies language related problems in practical life including second language learning and teaching. Thus, both cater to language acquisition be it in informal or formal settings.

Learning is a complex process. Hence, the interdisciplinary field of Psycholinguistics is quite important in the comprehension of teaching and learning process because a teacher should know how the language learning takes place in the mind of the learner as well as what factors contribute to or hinder the process. Teachers, during their teaching process, should bear in mind the complexity of the teaching-learning process from a psycholinguistic perspective - how students acquire languages and how a teacher can teach a language effectively.

Background of the Study

Virtual University of Pakistan (VUP) started a master's program in English Language Teaching (ELT) in 2018. The program aims at training pre-service and in-service teachers from around the country through developing their expertise in English as a second language (ESL). Therefore, it includes both content and teaching courses to enrich students with knowledge and skills.

The course of Psycholinguistics (Eng 511) is part of the MA ELT syllabus at VUP as a 3-credit hour course offered in semester 3. Psycholinguistics as a content course helps students study the psychological factors that are involved in the language learning process. It also focuses on the application of the latest research in the field. The course first introduces students to the fundamental concepts of Psycholinguistics

and then brings into discussion the latest developments in the field. The course covers topics like the history and significance of Psycholinguistics, information processing systems, language processing, working and long term memory, perception of speech and written language, phonological, morphological and semantic dimensions of word knowledge, comprehension of discourse, psychology of learning, production of speech and language, formulating and implementing linguistic planning, early and late language acquisition, cognitive processes of monolingual and bilingual brain, first and second language learning, innate mechanism and lateralization of language processes, multiple aspects impacting cognition, neurolinguistics and disorders, learning styles, strategies, affective factors and motivation in SLA, sociocultural factors in SLA and the latest research in the field.

Research Question

The study aimed to discover students' perceptions about how Psycholinguistics (Eng 511) can help them in SLA and teaching English as a second language (ESL). Therefore, the report analyzes the students' perceptions about the role of Psycholinguistics in developing pre/in-service teachers' second language teaching expertise. The word student-teacher is used for both pre/in service teachers henceforth. The study seeks answer to the following research question:

> RQ: What are student-teachers' perceptions about the role of Psycholinguistics in facilitating ESL teaching?

Delimitations of the Study

The study is delimited to the Psycholinguistics course offered in VUP MA ELT program. As the study is a preliminary one, data based on a survey has been utilized. The data has been collected from those students who completed the theory course and have not gone through Psycholinguistics based teaching practice which could not be conducted due to Covid 19. More qualitative studies with in-depth interviews and quantitative studies with experimental designs need to be conducted with a larger sample size, for generalizing the findings of this preliminary study.

Significance of the Study

The study will be significant for all program stakeholders from a program evaluation perspective in general and course evaluation perspective in particular. The findings will help administrators improve the course through more elaborate course evaluation and help students in realizing the significance of the application of the Psycholinguistics' theoretical knowledge in their professional and practical life.

Literature Review

Psycholinguistics is a broad field with various sub-disciplines like theoretical, developmental, social, educational, neuro, experimental and applied linguistics (Chaer, 2015). Out of these, Developmental Psycholinguistics that focuses on the process of language acquisition and Applied Psycholinguistics that applies Psycholinguistics to other domains are quite relevant to teaching (Purba, 2018). While socio-cultural approaches focus on society and culture as input sources, Psycholinguistics asserts that input for language acquisition can only be successfully processed when an individual's cognitive processes work appropriately. Any problems with the processing can result in delayed, flawed or hindered output (Claros, 2009). For example, memory plays a crucial role in storing and retrieving linguistic data (Randall, 2007). If one suffers from memory issues like amnesia, dementia, aphasia or backsliding, language performance would directly get affected.

Randall (2007) explores how cognitive linguistics and psychology in general and neuropsychology in particular help in understanding second language acquisition and learning processes from nativist/connectionist perspectives. He connects sub areas like phonology, semantics and morphology to ESL teaching methods used in classrooms. After discussing issues like the difference between behaviourist and cognitive psychology, how Psycholinguistics changed the perceptions about language learning, language specific module in the brain, cognitive structures involved in processing information and Connectionism's contribution in understanding language processing; he emphasizes how the movement from behaviourism to physiological processing of the brain with the help of brain imaging connects information processing through various memory stores to language processing in humans.

Demirezen (2004) considers Psycholinguistics theories helpful in not only acquiring all four skills of a language but also in phonological, grammatical and lexical aspects of language learning. Hedayat and Tajik (2020) consider Psycholinguistics helpful for language teaching because teachers must be familiar with the mental processes of language learning through the existing theories and explore the impact of those theories in real life through their teaching. Pishghadam (2011) considers English language teaching and Psycholinguistics interactive, enriching and enhancing each other. Mailce and Buchweitz (2019) in their introduction to a special edition on Psycholinguistics: Implications for the Classroom contend that knowledge about neuro/cognitive aspects of language learning and processing is significant for teaching in educational contexts.

Methodology

To investigate how Psycholinguistics can be beneficial for pre-service or in-service student-teachers, the study used a quantitative research design.

Population

The population of this study was all those students who studied the course of Psycholinguistics offered in the MA in ELT at VUP in the semesters Spring 2018, Fall 2018, Spring 2019 and Fall 2019.

Sampling Technique

As the study explores enrolled students' opinions about a particular course or set of knowledge, purposive sampling was used. This sampling technique was selected because the study aimed to explore a facet of a particular university's specific degree program which makes it more suitable for the study. Another benefit of using purposive or judgmental sampling is that in spite of being a non-probability sampling method, it helps to generalize results.

Research Instrument

For this survey research, a 5-point Likert scale was used which consisted of the following response options: strongly agree (SA), agree (A), neutral (N), disagree (D), and strongly disagree (SD). It consisted of items focusing on how Psycholinguistics can be helpful for developing second language teaching expertise in student-teachers. The survey had a total of 30 items which were subdivided into three parts. The first part explored the general impact of Psycholinguistics knowledge on SLA, the second part explored the impact on metacognition for understanding students' language learning processes through particular subject knowledge and the third part focused on how Psycholinguistics knowledge will aid in the ESL teaching process.

Validity of the Survey

The survey was initially piloted with 30 VU students who were in-service and already performing their duties in different schools. They cooperated in sharing their experiences and suggestions. The survey was validated accordingly.

Sample Size

A sample is a representative subset of a larger population for measurement. A total of 97 participants (30 in-service and 67 preservice students) responded to the survey.

Sample Characteristics

The following table shows the sample characteristics.

TABLE 1
Sample Characteristics

Variables	Categories	Frequencies	Percentage
Gender	Male	24	24.7%
	Female	73	75.3%
Status	On-service Students	30	30.9%
	Off-service Students	67	69.1%
Total		**97**	

Table 1 shows that females were the majority and most of the participants were preservice students not teaching anywhere.

Results

The survey consisted of three parts with a total of 30 items. The results of the study are presented in Tables 2, 3 and 4.

TABLE 2
General Understanding of the Language Learning Processes of Students

SN	Items Psycholinguistics will help me:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	better understand the language learning process of students	31%	62%	2%	1%	1%
2	focus on the comprehension process of the learner	64%	31%	0%	2%	0%
3	relate language learning with the psychology of the learner	66%	29%	0%	1%	1%
4	Focus on the information processing system of the learner	23%	70%	2%	1%	1%
5	understand the types of memory and students' retention of learnt material	26%	65%	5%	0%	1%
6	understand the mechanism involved in the production of speech	67%	28%	0%	2%	0%

The first part of the questionnaire focused on how Psycholinguistics knowledge helped student-teachers in understanding the language learning processes of their students. The most positive response was to the items "Psycholinguistics will help me focus on the comprehension process of the learner" (64%SA and 31% A) and "Psycholinguistics will help me relate language learning with the psychology of the learner"

(66% SA and 29% A). All other items got more than 90% total of agree and strongly agree responses with not more than 2% responding with disagree or strongly disagree. However, two items got comparatively fewer strongly agree responses. They were "Psycholinguistics will help me better understand the language learning process of students" (31% SA and 62% A) and "Psycholinguistics will help me understand the types of memory and students' retention of learnt material" (26% SA and 65% A).

TABLE 3

Impact of Psycholinguistics Subject Knowledge on Metacognition

SN	Items The knowledge of	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7	false recognition errors will help me identify the error of the learners	24%	67%	6%	0%	0%
8	slip of tongue will help me identify the speech error of the students	27%	65%	2%	3%	0%
9	critical period hypothesis helps me identify the effective age of learning	82%	11%	4%	0%	0%
10	language bio-program will help me understand the innate mechanism of the language learning process of the students	80%	12%	5%	0%	0%
11	cognitive control will help me understand the attention process of the learner during the learning process	26%	63%	6%	1%	1%
12	Broca's aphasia will help me understand the nature of deficit in learning	29%	66%	2%	0%	0%
13	Wernicke's aphasia will help me understand the nature of deficit in comprehension	29%	65%	2%	1%	0%
14	split brain research will help me understand the innate deficiency of the language learner	31%	63%	2%	1%	0%
15	phonological disorders will help me understand the student's innate difficulty of reading	31%	63%	2%	1%	0%
16	Issues in first language acquisition will help me identify/understand the same in the second language learning process of the students	29%	64%	1%	3%	0%
17	Interference between first and second languages will help me identify obstacles in teaching a second language	29%	64%	3%	1%	0%

The second part of the questionnaire explored how specific subject knowledge would help student-teachers' in identifying learners' second language learning challenges. All items got highly positive responses with 0% strongly disagree and a maximum of 3% responding with disagree. The most positive responses were received on the items "The knowledge of critical period hypothesis helps me identify the effective age of learning" (82% SA and 11%A) and "The knowledge of language bio-program will help me understand the innate mechanism of the language learning process of the students" (80% SA and 11% A).

The responses to the items of part 3 of the questionnaire were also very positive with not more than 4% disagreement on any of the items. The most positive responses were to the items "The knowledge of learning styles will help me focus on students' style of learning to enhance their learning" (83% SA and 12% A) and "The knowledge of transformational grammar will help me in teaching grammar more effectively" (74% SA and 16% A).

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TABLE 4
Impact of Psycholinguistics on L2 Teaching

SN	Items The knowledge of	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18	psycholinguistics will help me address the problems student face during language learning process	67%	27%	0%	2%	1%
19	psycholinguistics will help me in the second language teaching process	64%	29%	0%	3%	1%
20	learning styles will help me focus on students' style of learning to enhance their learning	83%	12%	1%	0%	1%
21	language learning strategies will facilitate my second language teaching process	29%	64%	1%	3%	0%
22	socio-cultural factors will help me adapt my teaching by keeping socio-cultural factors in mind	27%	62%	6%	1%	1%
23	research on new directions in language learning psychology will help me become an innovative teacher /upgrade my skills	28%	65%	2%	1%	1%
24	affective factor will help me in addressing affective barriers faced by students	29%	63%	4%	0%	1%
25	differences in children vs. adults in second-language learning will help me adapt my teaching according to age groups	25%	66%	3%	3%	0%
26	theories of culture will help me in selecting culturally sensitive material for teaching	26%	67%	2%	2%	0%
27	theories of bilingualism will help me best utilize students' first language in the classroom	27%	66%	2%	2%	0%
28	transformational grammar will help me in teaching grammar more effectively	74%	16%	6%	1%	0%
29	motivation theories will help me enhance the motivation of the student	32%	61%	2%	0%	2%
30	memory types will help me improve the memory of the learner by using certain strategies	76%	18%	2%	1%	0%

Discussion

Aguilar-Valera (2019) overviews the language teaching landscape over the years by highlighting the methodological problems encountered and proposes a psycholinguistic model, which may integrate behavioral and cognitive aspects supported by the use of technology, as an alternative for developing efficient programs and projects by being adaptable to different age groups. Based on VUP's Psycholinguistics course as part of the MA ELT syllabus, the aim of this study was to partially evaluate the Psycholinguistics' course through exploring student-teachers' perceptions about the role of Psycholinguistics in enhancing pre/in-service teachers' second language teaching skills and the results were highly positive. For all items on the survey, more than 95% of the participants opted for the options strongly agree and agree. This indicates that they were highly satisfied with the course because it not only provided them with valuable information and knowledge about Psycholinguistics' basic concepts but also served as a foundational course to facilitate their future teaching.

The first part of the questionnaire focused on how Psycholinguistics knowledge would facilitate student-teachers in understanding language learning processes of their students. They were affirmative about their increased knowledge about the mental processes involved in language acquisition and use. They were particularly positive about being able to focus on the comprehension process of the learner (64% SA and 31% A) and relate language learning with the psychology of the learner (66% SA and 29% A). However, although highly positive, they were less emphatic about better understanding the language learning process of students (31% SA and 62% A) and understanding the types of memory and students' retention of learnt material (26% SA and 65% A) because both language learning process and working memory are unique to individual learners. However, they were quite aware of their significance because memory is crucial for storing and retrieving linguistic data as described by Randall's 2007 study. Overall,

they shared positive feedback about psycholinguistic knowledge as a facilitator in enabling them to relate their students' psychology with their language learning process and subsequently, to address the challenges faced by them in SLA.

Section 2 of the questionnaire explored how specific subject knowledge would inculcate metalinguistic knowledge in student-teachers to facilitate them in identifying learners' second language learning challenges. They were also very positive that the knowledge gained by the course about language learning problems and innate deficiencies like aphasia, split brain and other psychological disorders will help them identify the biological and psychological language learning barriers faced by their students. Metacognition i.e., cognition about cognition plays a vital role in language teaching and learning (Haukas, Bjorke, & Dypedahl, 2018). The second part of the questionnaire focused on how the knowledge about particular topics might help student-teachers in identifying their students' problems. They were quite positive about the role of multiple aspects of Psycholinguistics in making them understand students' progress in learning a language. For example, false recognition errors' knowledge would help in identifying learners' errors (24% SA, 67% A), slip of the tongue in identifying errors of speech (27% SA, 65% A), critical period hypothesis in identifying the effective age of learning a second language (82% SA,11% A) and bio-program in understanding the innate mechanism of the language learning process (80% SA,12% A). The knowledge about cognitive control would guide them about students' attention process (26% SA, 63% A), Broca's aphasia about deficit in learning (29% SA, 66% A), Wernicke's aphasia about deficit in comprehension (29% SA, 65% A), and split brain research about innate language learning deficiency (31%SA, 63%A). Their opinions endorse Mota and Bucweitz's (2019) contention that knowledge about neuro/cognitive aspects of language learning and processing is significant for teaching in educational contexts.

The participants were also confident about their understanding of the impact of phonological disorders on reading (31% SA, 63% A) as well as the behavior patterns of first and second language learning which would help them in identifying the challenges students might face in SLA. The findings support Demirezen's (2004) claim that Psycholinguistics theories help students acquire language skills by scaffolding phonological, grammatical and lexical aspects of language learning.

The third section of the survey encompassed items regarding the impact of Psycholinguistics content knowledge on teaching and student-teachers were of the opinion that the knowledge gained through the course would help them address students' problems during the language learning process (67% SA, 27%A), by particularly helping them in the second language teaching process (64% SA, 29% A). Their teaching skills would be enhanced because of the knowledge about learning styles (83% SA, 12% A) and language learning strategies for SLA (29% SA, 64% A). Similarly, the knowledge about socio-cultural factors in learning a language will be an aid to their teaching (27% SA, 62% A) as well as the latest research on language learning psychology in enhancing teaching skills (28% SA, 65% A). The knowledge about the affective filter will facilitate in addressing students' affective barriers (29% SA,63% A),the difference in adults and children's language learning in addressing the needs of each accordingly (25% SA, 67% A), and cultural theories in selecting culturally sensitive materials for teaching SLA(26% SA, 66% A). Theories of bilingualism, generative grammar and motivation would help them in addressing the challenges faced by their students. Hedayat and Tajik (2020) consider Psycholinguistics helpful for language teaching because teachers must be familiar with the mental processes of language learning through the existing theories and explore the impact of those theories in real life through their teaching. The student-teachers were very confident about being able to use teaching strategies adaptive to students' learning styles and memory types. Thus, they would be able to provide more space to students by understanding multiple styles of learning, as well as knowledge retention based on short/long term memory by devising strategies to aid them. They were also positive about teaching grammar in a better way based on the knowledge gained through the study of transformational grammar and they would be able to teach more effectively by being culturally sensitive and enhancing motivation.

Lastly, the student-teachers were quite hopeful that based on the knowledge gained through the Psycholinguistics course, they would be able to motivate their students while addressing socio-cultural

and bilingual issues faced by their students through the exposure to language learning styles and strategies they gained with the help of the content knowledge. They could realize the interactivity between the knowledge of Psycholinguistics and teaching a second langage as Pishghadam (2011) found ELT and Psycholinguistics interactive, enriching and enhancing each other.

Conclusion

The study focused on how psycholinguistic content knowledge could aid teaching and learning in general and teaching a second language in particular. Psycholinguistics helps the teaching process by making student-teachers realize how a learners' mind may work while learning a language. The opinions of student-teachers who studied Psycholinguistics reveal that theoretical knowledge of first and second language acquisition and the working of a bilingual brain can have a very positive impact on English as a second language (ESL) teaching. Psycholinguistics itself emphasizes upon the significance of transdisciplinary knowledge for teaching and learning process and by blending psychology and pedagogy, subject knowledge of Psycholinguistics can help student-teachers in gaining metalinguistics knowledge about acquisition, comprehension and production processes which has the potential to transform into the meta-learning necessary for the teaching-learning process.

The study recommends that student-teachers in teacher training programs should focus on meta-learning in all content courses and try to best utilize the knowledge for adopting certain teaching styles and strategies. The same emphasis should be there in the instructional design of all ELT teacher training programs. The study is just an overview of student-teachers' opinions about the impact of Psycholinguistics on ESL teaching. More in depth and empirical studies on the evaluation of the use of psycholinguistic knowledge in various language teaching settings are recommended. Moreover, a comprehensive course evaluation by analyzing all aspects and encompassing all stakeholders would further benefit the curriculum.

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