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Student Teachers' Perspectives on Academic Support Services in Open and Distance Learning

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ABSTRACT

Academic support services are crucial for student success in open and distance learning (ODL), particularly in teacher education where learners balance multiple responsibilities. This study examined student teachers' perspectives on academic support within the Bachelor of Education (B.Ed.) and Postgraduate Diploma in Education (PGDE) programmes at the Open University of Sri Lanka. Grounded in Tait's (2000) tripartite framework and Keller's (1987, 2010) ARCS Model, it assessed support effectiveness and identified enhancement areas. A survey was administered to 474 student teachers examining six dimensions of academic support services: academic counselling, interactive learning sessions, assessment feedback, self-learning materials, mentoring during teaching practice, and online learning support. Descriptive statistics and inferential analyses (t-tests and ANOVA) examined perceptions and variations across gender, programme type, and study centres. Findings revealed generally positive perceptions, with mentoring and teaching practice receiving highest satisfaction ($M = 3.77$, $SD = 0.65$), followed by interactive learning sessions ($M = 3.73$, $SD = 0.65$). Notable gaps emerged in self-learning materials ($M = 3.43$, $SD = 0.73$), online learning support ($M = 3.45$, $SD = 0.73$), and assessment feedback ($M = 3.46$, $SD = 0.65$). Gender analysis showed significant differences only in assignment feedback perceptions, with males reporting higher satisfaction ($p = .007$). No significant differences existed between B.Ed. and PGDE students, suggesting equitable programme support. However, significant variations across study centres were identified for all dimensions ($p < .05$), highlighting service quality disparities. Recommendations include enhancing counselling accessibility, standardizing mentoring structures, improving self-learning materials, and strengthening online infrastructure for equitable support in teacher education programmes.

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1. Introduction

Open and Distance Learning (ODL) represents a transformative paradigm in higher education, offering flexible and inclusive learning opportunities to diverse student populations. The Department of Secondary and Tertiary Education

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at the Open University of Sri Lanka (OUSL) offers a comprehensive range of programs, from short courses to doctoral degrees. Among these, the Bachelor of Education (B.Ed.) in Natural Sciences and the Postgraduate Diploma in Education (PGDE) stand out as pivotal programs in teacher education. These programs are offered in all three media Sinhala, Tamil, and English. In addition, these programs are supported by well-established administrative and academic support systems designed to ensure student success.

Academic learner support services include counselling, interactive sessions, assessment feedback, self-learning materials, mentoring during teaching practice, and online support. These services are vital for student engagement, retention, and achievement in ODL (Simpson, 2012; Tait, 2014). Conversely, these services require systematic evaluation from students' perspectives to identify strengths, address gaps, and enhance learning.

This study examines the nature and effectiveness of academic learner support in OUSL's B.Ed. and PGDE programs. The focus is on student perceptions to guide improvements in the academic support system. B.Ed. and PGDE programs offer structured support like counselling, interactive sessions, and online platforms. However, the alignment of these services with student needs remains unclear. Therefore, insights from this study will strengthen support in teacher education programs and enhance the ODL experience.

1.1 Purpose and Research Questions of the Study

The purpose of this study was to examine students' perspectives on academic learner support services as they promote student success within the B.Ed. and PGDE programs at the Open University of Sri Lanka. Accordingly, the following research questions were formulated:

- What are the perspectives of student teachers on academic learner support services provided in ODL programs?
- Are there any gender differences in student teachers' perspectives on academic learner support services in ODL programs?
- Are there any significant differences in student teachers' perspectives on academic learner support services between the B.Ed. and PGDE programs?
- Are there any significant differences in student teachers' perspectives on academic learner support services based on their study centers?

1.2 Contribution and Novelty

This study makes several significant contributions to the field of open and distance learning. First, it provides the first comprehensive, multi-dimensional empirical examination of academic support services specifically within teacher education programs at the Open University of Sri Lanka, addressing a critical gap in the South Asian ODL literature. Second, the study advances theoretical understanding by integrating Tait's (2000) tripartite framework of learner support (cognitive, affective, and systemic) with Keller's (1987, 2010) ARCS model of motivation, demonstrating how these complementary frameworks interact in shaping student teachers' perceptions and experiences.

Third, the research contributes to current international debates on spatial inequalities in distance education (Gunter, 2025) by examining variations across 25 geographically dispersed study centers, revealing significant disparities that have implications for equity and access in ODL systems. Fourth, the study adds to the emerging literature on gender differences in online learning perceptions (Yu & Deng, 2022) by identifying a significant gender gap in feedback perception that has not been previously documented in the South Asian ODL context. These contributions position the study within contemporary global discourse on post-pandemic ODL quality, regional equity, and inclusive support design.

2. Review of Literature

Learner Support Services (LSS) are central to the success of ODL, strongly shaping engagement, satisfaction, persistence, and achievement. Literature shows that context-responsive, coordinated support critically affects learner outcomes, especially in teacher education. Seminal works by Tait (1995, 2003) and Simpson (2012) establish that learner support addresses isolation, boosts retention, and improves academic outcomes. Decades of global research have examined the design, effectiveness, and limitations of support systems, confirming that robust LSS are vital for learner success. This review synthesizes theoretical models, institutional examples, learner experiences, and empirical results on LSS effectiveness in ODL.

2.1 Foundational Perspectives on Learner Support in ODL

The theoretical grounding of learner support is largely attributed to Tait's (1995, 2003) categorization of cognitive, affective, and systemic support functions. This tripartite framework emphasize academic guidance, motivational assistance, and institutional efficiency as the building blocks of effective learner support. Simpson (2012) similarly underscores the role of learner support in reducing dropout rates and improving student performance, suggesting that support must be proactive and personalized.

Several studies adopt these frameworks. For instance, Mahanta (2013), used Tait's model to analyze the LSS of Dibrugarh University, revealing substantial deficits in awareness, communication, and resource utilization. Although support services were structurally in place, their effectiveness depended heavily on learner awareness, institutional coordination, and consistent delivery.

2.2 Cross-Institutional Comparisons of ODL Support Systems

Comparative research reveals shared and divergent challenges in academic support systems, across ODL institutions globally. For instance, studies comparing ODL universities highlight the importance of blended learning, integration of OER, and strong quality assurance mechanisms. Some institutions emphasize fully online models to expand accessibility, while others adopt hybrid approaches to meet diverse learner needs.

Research from South Asia, Africa, and Latin America identifies common institutional barriers, including regional inequalities, limited funding, inadequate ICT infrastructure, insufficient tutor engagement, and inflexibility in assessment procedures (Duran et al., 2014; Gujjar et al., 2009; Ndege et al., 2023; Okopi & Ogunleye, 2016; Ranasinghe et al., 2009; Wimalasiri et al., 2022). Despite contextual differences, institutions generally strive to balance scalability with personalized support, often integrating technology-enhanced delivery with learner-responsive services (Rehman & Shahzadi, 2025; Zuhairi et al., 2020). Many scholars advocate hybrid support models that combine digital resources with interpersonal learner engagement to address diverse learner needs and mitigate infrastructural and pedagogical challenges (Ariadurai & Manohanthan, 2008; Senyametor et al., 2024; Malik & Hussain, 2018).

Mouton and Subban (2023) found that although administrative systems and instructional communication were generally functional, significant concerns existed regarding the timeliness of feedback, accessibility of academic counselling, and the inconsistency of tutor engagement across regional centers.

Some institutions demonstrate strengths in regional office services, academic guidance, and tutorial support, while others experience inconsistency in service quality, gaps in facilitation, and weak feedback mechanisms. Collectively, these cross-institutional studies show that ODL systems worldwide face similar challenges in equity, access, and instructional support. In the context of geographically challenging regions, Wani et al., (2023) examined learner support services across six distance education institutions in Jammu and Kashmir, India, revealing that while 60% of learners were satisfied with support services overall, significant gaps persisted in timely delivery of learning materials, prompt resolution of queries, and consistency of academic counseling across study centers, challenges that were particularly pronounced in remote and conflict-affected areas.

2.3 Learner Support Systems at the Open University of Sri Lanka

The OUSL has established a comprehensive, multimodal support ecosystem tailored to diverse learner needs. Printed self-learning materials form the backbone of academic support, integrating structured activities to promote autonomous learning (Sivalogathasan, 2019). Digital systems, such as the Moodle LMS, MYOUSL portal, and NODES cloud platform, enhance communication, resource access, assessments, and interactive learning (Ariadurai & Manohanthan, 2008; Ranasinghe et al., 2009).

Regional and study centers play a crucial role by offering face-to-face tutorials, counselling, and administrative support, particularly benefiting learners with limited digital competencies (Rajaguru & Abeysekera, 2017; Sethunga et al., 2021). They also provide essential ancillary services such as libraries and photocopying facilities, fostering a sense of community.

However, studies consistently identify persistent regional disparities in service quality, ICT access, and tutor availability (Ranasinghe et al., 2009). Limited internet infrastructure and varying levels of digital literacy further constrain effective engagement with online support services (Wimalasiri et al., 2022). Focusing specifically on the PGDE programme, Karunanayake (2013) found that many student teachers enter ODL without prior experience, resulting in heightened expectations for academic counselling and structured guidance. Identified gaps included unclear assignment instructions, limited tutor access, and inconsistent feedback, patterns that were broadly echoed in ODL research.

2.4 Empirical Evidence on Learner Support in Teacher Education

Teacher education in ODL contexts requires strong academic guidance, mentoring, and feedback. Multiple empirical studies demonstrate that well-structured support services significantly influence trainee teacher satisfaction, engagement, and academic performance. For instance, analyses of teacher education programs reveal that while general information services are often rated positively, substantial dissatisfaction arises around tutor interaction, assignment guidance, and timely feedback. Strengthened tutor training and clearer communication are widely recommended.

Recent comparative research by Hazir and Harris (2023) examining distance learning support in teacher education programs in England and Türkiye demonstrated that the quality of learner support services significantly influences trainee teachers' attitudes toward inclusive education. Their findings emphasize that well-structured academic support, combined with regular tutor interaction and timely feedback, enhances not only academic performance but also professional dispositions and pedagogical confidence among trainee teachers in ODL environments.

Research consistently shows that academic guidance, counselling, feedback, and administrative responsiveness are strong predictors of trainee teacher performance. When these support elements are inconsistently delivered, students report reduced motivation, feelings of isolation, and limited learning gains. The need for equitable support across study centers emerges as a recurring theme across multiple contexts.

2.5 ICT Integration and Digital Support in ODL

The adoption of ICT has significantly expanded support possibilities in ODL, though utilization remains inconsistent. Alok (2024) revealed positive attitudes among learners toward digital tools such as email, smart devices, and online resources. However, both learners and teachers reported challenges related to digital readiness, inadequate competence, and institutional constraints. Traditional broadcast media were least favored, indicating a shift toward modern, interactive ICT tools.

Similarly, institutional analyses reveal limited technology use due to poor planning and infrastructure, even in large ODL universities where digital innovation is assumed to be strong. These challenges mirror those experienced in OUSL regional centers, where learners often face constraints on internet access and digital literacy. Collectively, evidence

suggests that technology can greatly enhance learner support, but only when implemented with sufficient training, infrastructure, and ongoing institutional commitment.

2.6 Broader Perspectives on Learner Support in ODL

Broader analyses of ODL systems highlight persistent issues, including high dropout rates, insufficient academic and non-academic support, and limited monitoring of support effectiveness. Scholars note that while support mechanisms indirectly influence academic outcomes, their direct impact is mediated by factors such as ICT access, tutor competence, administrative communication, and institutional policies.
Studies emphasize the need for comprehensive support policies, proactive communication strategies, trained support personnel, and strong feedback systems. Learner empowerment and awareness of available services are also highlighted as crucial components for enhancing learner satisfaction, retention, and academic success.

In sum, robust Learner Support Services are widely shown as fundamental to ODL system effectiveness. Theories from Tait and Simpson provide the foundation, while current evidence highlights enduring issues in infrastructure, feedback, access, and tutor involvement across contexts. Though frameworks are robust in many systems, including OUSL, inconsistencies in quality and responsiveness persist. Teacher education especially needs strong counselling, timely feedback, mentorship, and digital support. To improve ODL quality, it is essential to strengthen infrastructure, upskill tutors, and raise learner awareness. As ODL expands, a coordinated, learner-centric, tech-supported approach becomes even more crucial.

2.7 Conceptual Framework

The conceptual foundation of this study is grounded in established theories of learner support and motivation in ODL. Among the most influential models, Tait's (2000) framework of Student Support in Open and Distance Learning provides a comprehensive perspective on the institutional and pedagogical mechanisms that contribute to learner success. According to Tait, effective support in ODL is structured around three interrelated dimensions: cognitive, affective, and systemic support.

Cognitive support focuses on academic guidance and intellectual development through mechanisms such as academic counselling, feedback, and structured learning resources. Affective support emphasizes motivational and emotional assistance aimed at sustaining students' confidence and sense of belonging within the learning community. Systemic support encompasses administrative, technical, and logistical structures that ensure equitable access to learning opportunities and efficient communication within ODL systems. This tripartite model provides a holistic foundation for understanding how academic, emotional, and administrative factors collectively shape learners' experiences and outcomes in distance education.

Complementing Tait's institutional perspective, Keller's (1987, 2010) ARCS Model of Motivational Design offers a motivational framework that explains how instructional and support strategies can sustain learner engagement in ODL environments. The ARCS model comprises four components: Attention, Relevance, Confidence, and Satisfaction. It posits that effective learning design should capture and maintain learners' attention, establish the relevance of learning activities to their personal and professional goals, enhance confidence in their ability to succeed, and promote satisfaction through meaningful learning experiences and feedback. Applied to open and distance education, Keller's model underscores the importance of continuous interaction, clear communication, and timely recognition of progress in maintaining learner motivation and persistence.

Integrating Tait's (2000) model with Keller's (1987, 2010) ARCS framework provides a robust conceptual foundation for the present study, which explores student teachers' perspectives on academic support in ODL programs. While Tait's model highlights the structural and institutional mechanisms necessary for learner success, Keller's model emphasizes the psychological and motivational processes that shape how students engage with these support services. Together, these frameworks guided the selection of variables, such as academic counselling, interactive learning sessions, assignment feedback, self-learning materials, mentoring and teaching practice, and online learning support, and informed the interpretation of findings from both institutional and learner-centered perspectives.

3. Methodology

The study employed a survey research design to investigate learner academic support services within ODL programs. The target population consisted of students enrolled in the B.Ed. in Natural Sciences and the PGDE, both offered in Sinhala, Tamil and English mediums. Voluntary sampling was used to select participants, resulting in a sample of 474 student teachers, comprising 238 from the Sinhala medium and 236 from the Tamil medium. Out of these, 469 were PGDE students, with the remainder from the B.Ed. Natural Sciences program.

Data was collected through an online questionnaire. It focused on six key areas of academic support services: Academic Counselling, Day School/Interactive Learning Sessions, Assessment Feedback, Modules/Study Guides or Self-Learning Materials, Teaching Practice and Mentoring, and Online Learning Support. The questionnaire used a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to capture students' perceptions and experiences. Data analysis employed both descriptive statistics, such as means, standard deviations, and frequency distributions, as well as inferential statistics, including independent samples t-tests and one-way ANOVA. These analyses examined variations across gender, programme type, and study centers.

4. Results

4.1 Perspectives on Academic Learner Support Services

This section presents and discusses the findings related to student teachers' perceptions of academic learner support services in ODL. The results are organized under six key areas In academic support services: academic counselling, interactive learning sessions, assessment feedback, self-learning materials, mentoring and teaching practice, and online learning support.

Table 1 summarizes the overall perceptions of student teachers across the six categories of academic support services. The findings reveal that student teachers generally hold moderately positive perspectives toward the learner support provided in their ODL programs. The mean scores ranged from 3.43 to 3.77 on a five-point Likert scale, indicating overall satisfaction across all domains.

Table 1

Mean and Standard Deviation of Student Teachers' Overall Perspectives Towards Academic Learner Support Services

Academic Support Dimension	M	SD
Academic Counselling	3.55	0.62
Interactive Learning Sessions	3.73	0.65
Assignment Feedback	3.46	0.65
Self-Learning Materials	3.43	0.73
Mentoring and Teaching Practice	3.77	0.65
Online Learning Support	3.45	0.73

Among the six categories, Mentoring and Teaching Practice obtained the highest mean score (M = 3.77, SD = 0.65), followed by Interactive Learning Sessions (M = 3.73, SD = 0.65) and Academic Counselling (M = 3.55, SD = 0.62). These findings suggest that student teachers valued the interactive, practice-oriented, and guidance-related components of academic support most highly. By contrast, relatively lower mean scores were recorded for Assignment Feedback (M = 3.46, SD = 0.65), Online Learning Support (M = 3.45, SD = 0.73), and Self-Learning Materials (M = 3.43, SD = 0.73). Although these values remain above the neutral midpoint, they highlight areas that require further attention, particularly in enhancing the quality and timeliness of feedback, the accessibility of online platforms, and the design of self-learning materials. The moderate standard deviations (ranging from 0.62 to 0.73) indicate that while most students shared similar experiences, individual variations in satisfaction exist.

4.2 Academic Counselling

As shown in Table 2, a significant proportion of learners (76.4%) reported receiving an orientation about their curriculum and courses, and 73.6% indicated that they felt comfortable discussing academic issues with counsellors. These findings support the positive mean score (M = 3.55) for academic counselling in Table 1, demonstrating the effectiveness of the faculty's academic guidance mechanisms. However, a considerable proportion of learners (20.1%) expressed dissatisfaction with the adequacy of counselling services during registration or add/drop periods, while 31.6% remained neutral about student welfare counselling availability. This mixed response indicates that, despite generally favorable perceptions, there are inconsistencies in the provision of timely and individualized counselling services.

Table 2

Academic Counselling: Percentage Distribution of Responses

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)
I received an orientation about the curriculum and courses before starting the program.	2.7	4.6	14.5	41.8	34.6
I am aware of the academic counselling services provided by the faculty.	2.3	3.8	31.2	47.5	15.2
I can discuss course changes, registration, and academic issues with counsellors.	3.0	4.2	19.2	46.4	27.2
Student welfare counselling is available when needed.	3.0	5.9	31.6	41.8	17.7
Academic counselling does not adequately address my needs during registration/add, or drop periods.	22.4	30.1	27.4	14.6	5.5

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

These results align with previous studies (e.g., Tait, 2014; Jung & Hong, 2016), which emphasize that consistent academic counselling is critical in reducing learner isolation and improving persistence in ODL settings. Therefore, periodic monitoring and improved communication during administrative stages are recommended.

4.3 Interactive Learning Sessions (Day Schools)

The results in Table 3 indicate high satisfaction with interactive learning sessions. A majority of respondents (85.2%) agreed that day schools were conducted as scheduled, while 72.8% reported that lecturers effectively clarified their doubts. These findings correspond with the high mean value (M = 3.73, SD = 0.65) shown in Table 1, suggesting that the structured and interactive components of the ODL model are functioning well.

Table 3

Interactive Learning Sessions (Day Schools): Percentage Distribution of Responses

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)
The academic year timetable is provided at the beginning of the program.	3.6	4.6	10.8	35.6	45.4
Day school sessions are conducted as scheduled.	2.7	3.6	8.4	36.3	48.9
Lecturers clarify doubts effectively during day school sessions.	2.0	4.9	20.3	41.4	31.4
Feedback about day schools is collected from students for improvements.	2.5	9.7	24.9	38.4	24.5
My doubts are not fully addressed during day schools.	20.0	26.4	33.3	15.6	4.6

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

Nevertheless, 20.2% of learners felt their doubts were not fully addressed, and 24.9% responded neutrally about whether feedback was collected for improvement. This suggests the need for a more systematic feedback mechanism and greater responsiveness to learner input. Similar observations by Simpson (2018) highlight that the quality of tutor–student interaction is central to maintaining engagement and motivation in distance learning environments.

4.4 Assessment Feedback

According to Table 4, 73.4% of respondents agreed that assessment feedback helped them improve their performance, and 69.8% found the feedback sufficiently detailed. These findings are consistent with the mean score (M = 3.46, SD = 0.65) in Table 1, indicating moderately positive perceptions of assessment-related support.

Table 4

Assessment Feedback: Percentage Distribution of Responses

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)
Assignment instructions are clear, and valid late submissions are accepted	9.3	15.0	28.1	35.2	12.4
Assessment feedback helps me improve my performance.	1.5	5.3	19.8	47.9	25.5
Feedback is detailed and actionable for future learning.	2.3	5.7	22.2	45.1	24.7
Feedback is provided within a reasonable timeframe.	2.3	5.9	26.8	47.0	17.9
I rarely receive useful feedback on my assignments	17.1	33.1	29.7	16.0	4.0

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

However, only 47.6% of students agreed that assignment instructions were clear and that valid late submissions were accepted. Furthermore, one-fifth of the respondents (20%) reported rarely receiving useful feedback. These results highlight variability in feedback quality and timing, echoing findings from Garrison and Vaughan (2013), who noted that consistent, constructive feedback is a key determinant of learner satisfaction in blended and distance environments. Enhancing tutor training in assessment literacy and establishing standard feedback timelines could improve the consistency and perceived fairness of the assessment process.

4.5 Self-Learning Materials

Table 5

Self-Learning Materials: Percentage Distribution of Responses

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)
Course materials such as study guides and modules are well-structured and easy to understand.	6.8	9.7	31.2	35.8	16.5
Modules/study guides are designed effectively for independent study in ODL.	4.4	11.4	28.5	40.1	15.6
The content in the study guide/modules is relevant and suitable for distance learners.	4.0	8.2	30.0	39.7	18.1
Modules/study guides include additional resources to enhance learning.	4.0	5.3	26.3	46.0	18.4
OER (Open Educational Resources) in study guides are helpful for self-learning.	3.8	4.9	26.8	45.5	19.0
Modules do not adequately support independent learning.	16.7	32.7	29.3	16.2	5.1

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

Table 5 illustrates that most participants agreed that self-instructional materials were relevant (57.8%) and enriched with supplementary resources (64.4%), consistent with the moderate mean score (M = 3.43, SD = 0.73). However, 21.3% disagreed that the modules effectively supported independent study, while 31.2% expressed neutrality regarding the clarity and structure of materials.

These findings indicate that while materials are generally useful, improvements in content design, visual layout, and learner engagement elements are required. As observed by Perraton (2020), well-structured self-learning materials are fundamental to successful distance education, and deficiencies in design can negatively influence learners' autonomy and comprehension. Revising materials using the principles of self-regulated learning could enhance the effectiveness of independent study in ODL contexts.

4.6 Teaching Practice and Mentoring

Mentoring and teaching practice received the highest overall rating (M = 3.77, SD = 0.65). As indicated in Table 6, 83.1% of student teachers reported receiving regular mentoring support, and 84.6% agreed that classroom observations improved their teaching skills. These results demonstrate the strength of practical and personalized components of the ODL programme.

Nevertheless, the findings also reveal gaps, only 38.8% confirmed that mentor training workshops were conducted, and 43.2% felt mentoring lacked sufficient structure. This indicates variability in mentoring quality, which can impact professional learning outcomes. Prior studies (e.g., Smith & Ingersoll, 2018) emphasize that structured mentoring contributes significantly to teacher self-efficacy and retention. Hence, implementing standardized mentor training and supervision systems is essential for maintaining consistency across teaching practice placements.

Table 6

Teaching Practice and Mentoring: Percentage Distribution of Responses

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)
I receive regular mentoring support during teaching practice.	1.7	3.0	12.2	38.6	44.5
Classroom observations by supervisors improve my teaching skills.	1.7	3.4	10.3	41.6	43.0
Workshops conducted by the faculty prepare me adequately for teaching practice.	1.9	4.2	11.4	38.4	44.1
I am assigned a school mentor to support my teaching practice.	4.6	5.7	12.7	44.3	32.7
Mentor training workshops are conducted for guidance.	19.0	22.8	19.4	28.0	10.8
Mentoring during teaching practice is not sufficiently structured.	9.3	22.2	25.3	27.6	15.6

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

4.7 Online Learning Support

As shown in Table 7, respondents expressed moderate satisfaction with online learning support, corresponding to one of the lower mean scores (M = 3.45, SD = 0.73). While 63% of learners found the Learning Management System (LMS) easy to access and 62.2% acknowledged effective communication via online platforms, nearly 27% reported technical difficulties, and 26.8% were neutral about the interactivity of online courses.

These findings suggest that although the online infrastructure facilitates access and communication, technical and pedagogical challenges persist. According to Bozkurt and Sharma (2021), learner satisfaction in online environments depends on both system usability and the quality of online pedagogical engagement. Strengthening ICT support services and enhancing tutor capacity in online facilitation are therefore recommended to improve the overall online learning experience.

Table 7

Online Learning Support: Percentage Distribution of Responses

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)
OULMS provides easy access to course materials and updates.	3.6	6.8	26.6	42.4	20.6
Online platforms enable effective communication with tutors/peers.	2.7	7.4	27.6	40.9	21.3
Online courses include engaging activities.	3.8	11.2	26.8	38.6	19.6
Lecturers provide timely feedback on online activities.	3.6	9.9	27.4	38.2	20.9
I face technical difficulties accessing online materials/OULMS.	22.7	28.1	22.2	19.0	8.0

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

Overall, the results reveal that student teachers have moderately positive perceptions of academic learner support services in ODL programs. The highest satisfaction was observed for mentoring and teaching practice, interactive learning sessions, and academic counselling, which involve direct personal or practical engagement. Conversely, assessment feedback, self-learning materials, and online learning support were rated lower, highlighting areas requiring enhancement. The combined interpretation of mean values and percentage distributions offers a holistic understanding of learner experiences. These findings reinforce the importance of maintaining robust learner support systems particularly through improved feedback mechanisms, quality self-learning materials, and technologically enhanced learning environments to ensure student success and satisfaction in open and distance learning programs.

4.8 Gender Differences in Perceptions of Academic Support

To examine whether male and female student teachers differed in their perceptions of academic learner support services, an independent samples t-test was conducted for each component. Gender was included as a demographic variable to explore potential differences in perceptions among male and female student teachers, not to reinforce gender-based divisions but to examine whether both groups experience the ODL environment equitably. In educational settings, learners' engagement patterns and support preferences may vary due to sociocultural or pedagogical factors. Therefore, analyzing gender-based variations contributes to a more inclusive understanding of learner support effectiveness, ensuring that institutional policies and practices are responsive to the diverse needs of all learners.

Table 8 presents the independent samples t-test results for gender differences across all six dimensions of academic learner support. The results show that there were no statistically significant gender differences in student teachers' perceptions of most academic learner support services, including academic counselling, interactive learning sessions, self-learning materials, mentoring and teaching practice, and online learning support ($p > .05$). This indicates that both male and female student teachers held comparable views regarding the effectiveness of these support mechanisms in their ODL programs.

However, a statistically significant difference was found for the dimension of assignment feedback ($t(472) = 2.731$, $p = .007$), where male student teachers ($M = 3.62$, $SD = 0.57$) reported a more favorable perception compared to female student teachers ($M = 3.42$, $SD = 0.66$). This suggests that male learners were more satisfied with the quality and usefulness of feedback provided on assignments, while female learners perceived it somewhat less positively. This difference may reflect gender-based variations in expectations or interactions with tutors regarding feedback. Female learners might seek more detailed or formative feedback, while male learners may be more satisfied with concise evaluative comments. Prior studies in ODL contexts have similarly noted that perceptions of feedback quality are influenced by its clarity, timeliness, and degree of personalization. Overall, while gender did not significantly affect most perceptions of academic support, the observed difference in assignment feedback highlights the need for more inclusive and responsive feedback mechanisms to ensure that all student teachers, regardless of gender, receive equitable academic support in distance learning environments.

Table 8

Independent Samples t-Test Results for Gender Differences in Student Teachers' Perspectives on Academic Learner Support Services

Academic Support Dimension	Gender	n	M	SD	t	df	p	Interpretation
Academic Counselling	Male	95	3.61	0.60	0.973	472	.331	Not significant
	Female	379	3.54	0.63				
Interactive Learning Sessions	Male	95	3.79	0.62	0.939	472	.348	Not significant
	Female	379	3.72	0.65				
Assignment Feedback	Male	95	3.62	0.57	2.731	472	.007**	Significant
	Female	379	3.42	0.66				
Self-Learning Material	Male	95	3.45	0.74	0.281	472	.779	Not significant
	Female	379	3.42	0.72				
Mentoring and Teaching Practice	Male	95	3.85	0.58	1.251	472	.212	Not significant
	Female	379	3.75	0.67				
Online Learning Support	Male	95	3.49	0.76	0.702	472	.483	Not significant
	Female	379	3.44	0.72				

Note. $^{**}p < .01$.

4.9 Programme-Level Differences in Perceptions of Academic Support

Open and Distance Learning (ODL) institutions often serve diverse groups of learners enrolled in various academic programs. The Bachelor of Education (B.Ed.) and the Postgraduate Diploma in Education (PGDE) programs differ in terms of academic level, professional experience, and pedagogical expectations. Consequently, their perceptions of academic support services may vary depending on the depth of study, course structure, or learner autonomy. Examining differences across programs helps to ensure that learner support mechanisms are equally effective and appropriately tailored to the needs of both undergraduate and postgraduate student teachers.

To explore whether there were significant differences between B.Ed. and PGDE student teachers' perceptions of academic learner support services, an independent samples t-test was performed. The results, presented in Table 9, show that no statistically significant differences were found between B.Ed. and PGDE student teachers in any of the six domains of academic learner support services ($p > .05$). This indicates that participants from both programs shared comparable perceptions regarding the effectiveness and quality of learner support mechanisms provided by the institution.

Table 9

Independent Samples t-Test Results for Differences Based on Programme (B.Ed. and PGDE)

Academic Support Dimension	t	df	p	Mean Difference	Interpretation
Academic Counselling	0.98	471	.327	0.307	Not significant
Interactive Learning Sessions	1.18	471	.238	0.384	Not significant
Assignment Feedback	0.80	471	.422	0.263	Not significant
Self-Learning Material	-0.66	471	.513	-0.239	Not significant
Mentoring and Teaching Practice	0.57	471	.567	0.188	Not significant
Online Learning Support	0.27	471	.789	0.098	Not significant

Note. $**p > .05$

The absence of significant variation across programme levels suggests that the university has maintained a consistent standard of academic support across both undergraduate and postgraduate courses. Regardless of differences in academic maturity or teaching experience, both groups appear to have benefited similarly from the available counselling, interactive learning opportunities, assignment feedback, mentoring, and online support. These findings underscore the equitable nature of support delivery in the ODL environment, reflecting institutional success in standardizing services across diverse programs. While minor mean differences were observed, such as slightly higher perceptions among PGDE students in some areas, they were not statistically significant, implying that programme-level differences did not meaningfully affect student experiences of academic support.

4.10 Variations in Perceptions Across Study Centers

In an ODL system, learners are dispersed across multiple regional and study centers that operate under varying administrative, infrastructural, and instructional conditions. These contextual differences can influence students' access to academic support, interaction with tutors, and overall learning experience. Therefore, analyzing differences across study centers is crucial for identifying disparities in service quality and ensuring equitable support across the ODL network.

To determine whether there were statistically significant differences in student teachers' perspectives on academic learner support services across different study centers, a one-way analysis of variance (ANOVA) was conducted. The results, presented in Table 10, indicate that there were statistically significant differences in student teachers' perspectives across study centers for all six academic learner support dimensions ($p < .05$). This suggests that the quality and effectiveness of learner support services vary among centers, reflecting possible differences in administrative coordination, tutor engagement, infrastructure, or resource availability.

Table 10

One-Way ANOVA Results for Differences in Perspectives Based on Study Centers

Academic Support Dimension	F	df (Between)	df (Within)	p	Interpretation
Academic Counselling	1.958	24	449	.005**	Significant
Interactive Learning Sessions	2.133	24	449	.002**	Significant
Assignment Feedback	1.782	24	449	.013*	Significant
Self-Learning Material	2.024	24	449	.003**	Significant
Mentoring and Teaching Practice	1.693	24	449	.022*	Significant
Online Learning Support	2.044	24	449	.003**	Significant

Note. $*p < .05$. $**p < .01$.

The highest F-values were observed for Interactive Learning Sessions (F = 2.133, p = .002) and Online Learning Support (F = 2.044, p = .003), implying that the greatest variability in student experiences occurs in these areas. This may be due to disparities in how interactive sessions are conducted—such as frequency, facilitation style, or responsiveness of tutors—and in the accessibility or stability of online platforms across centers. Similarly, significant differences were also found in Academic Counselling (F = 1.958, p = .005) and Self-Learning Materials (F = 2.024, p = .003), suggesting that while counselling and printed or digital materials are centrally developed, the local delivery and guidance mechanisms might differ by center.

The findings for Assignment Feedback and Mentoring and Teaching Practice also show significant but comparatively smaller variations, indicating that while the overall systems for evaluation and mentoring exist, the implementation quality and tutor involvement may not be uniform across centers. Overall, these results point to the importance of standardizing learner support practices across regional and study centers. Ensuring consistent quality in academic counselling, interactive sessions, feedback mechanisms, and online learning resources can enhance equity and strengthen the overall effectiveness of ODL programs.

Several interrelated factors account for these observed disparities. Infrastructure and facility differences between urban and rural centers represent a primary driver. Metropolitan centers, particularly in Colombo, typically possess superior physical facilities, reliable internet connectivity, and access to updated learning resources compared to remote centres (Ranasinghe et al., 2009; Wimalasiri et al., 2022). Recent research confirms that spatial factors, including digital infrastructure, connectivity, and electricity access, significantly shape students' capacity to engage with learning platforms (Gunter, 2025).

Staffing variations further contribute to center-based differences. Urban centers generally attract more experienced tutors and administrative personnel, whereas remote centers often face tutor shortages, high turnover, and limited professional development opportunities. The quality and consistency of tutor-student interactions, feedback provision, and counselling services are directly shaped by staffing capacity and expertise (Aluko, 2021).

The digital divide compounds these disparities. Despite OUSL's investments in digital infrastructure through the OULMS platform, internet penetration and digital literacy remain unevenly distributed across Sri Lankan regions, with rural and post-conflict areas experiencing particular challenges (Wimalasiri et al., 2022). Students in centers with poor connectivity encounter greater difficulties accessing online materials, participating in virtual sessions, and receiving timely feedback, directly reflected in the significantly higher F-values for Interactive Learning Sessions and Online Learning Support.

Geographic and socioeconomic factors interact with these institutional variables. Centers in economically disadvantaged regions often serve student populations with fewer resources to support their learning. Comparative research demonstrates that geographic location influences not only access to education but also the quality of engagement and learning outcomes in distance education systems (Zamir & Wang (2023).

Finally, administrative capacity varies across regions. Some centers maintain more effective coordination mechanisms, proactive student outreach, and systematic quality monitoring than others. These findings align with international research demonstrating that learner support effectiveness depends heavily on both institutional frameworks and local delivery mechanisms (Thorpe, 2002; Rotar, 2022).

Collectively, these results underscore the importance of standardizing learner support practices across regional and study centers. Ensuring consistent quality in academic counselling, interactive sessions, feedback mechanisms, and online learning resources can enhance equity and strengthen the overall effectiveness of ODL programs.

5. Discussion

The findings of this study indicate that student teachers' perspectives on academic support services in ODL are generally positive, although there are meaningful variations across gender, regional centers, and programmes. This section moves beyond descriptive analysis to offer interpretive synthesis, examining how the findings extend existing theoretical frameworks and contribute to ongoing international debates on ODL quality, equity, and design.

5.1 Extending Tait's Framework: Insights from Teacher Education ODL

The findings of study provide empirical support for Tait's (2000) tripartite framework while revealing important interactions among its dimensions that have implications for ODL design. According to Tait, effective student support comprises cognitive support (academic guidance and intellectual development), affective support (motivation and emotional assistance), and systemic support (administrative and logistical structures). Our data suggest that these dimensions do not operate independently but interact in complex ways that shape overall support effectiveness.

The highest satisfaction ratings for mentoring and teaching practice (M = 3.77) and interactive learning sessions (M = 3.73) reflect the strength of cognitive support through structured academic guidance and direct engagement. However, the moderate ratings for assessment feedback (M = 3.46) and self-learning materials (M = 3.43) suggest that cognitive support via asynchronous channels needs improvement.

Critically, the significant center-based variations across all six support dimensions ($p < .05$) indicate that systemic support, the administrative and infrastructural foundation, mediates the delivery of both cognitive and affective support. This finding extends Tait's framework by demonstrating that systemic factors function as enabling conditions rather than merely logistical considerations. Recent research supports this interpretation (Rotar, 2022; Gunter, 2025).

5.2 Gendered Feedback Perception: New Insights for ODL Support Design

The significant gender difference in perceptions of assessment feedback ($t = 2.731$, $p = .007$), with male students reporting higher satisfaction than female students, is a novel finding that contributes to the emerging literature on gender and online learning. While most support dimensions showed no significant gender differences, consistent with Jung and Hong's (2014) observation that ODL can reduce gender-based barriers, the feedback domain reveals important differentiation.

This finding can be interpreted through multiple theoretical lenses. Research on gender differences in digital learning suggests that female learners may have different expectations regarding feedback. Female students may seek more detailed, formative, and personalized feedback, while male students may be more satisfied with concise evaluative

comments. Yu and Deng's (2022) meta-analysis found that feedback perception is among the domains where gender differences are most pronounced.

These findings have practical implications for the design of feedback in ODL teacher education. Institutions should consider developing differentiated feedback approaches, providing tutors with training in gender-responsive feedback practices, and offering supplementary feedback channels that better meet diverse learner needs.

5.3 Regional Disparities: Spatial Dimensions of Support Service Quality

The significant ANOVA results across all support dimensions by study center represent the most striking finding of this study and contribute to a growing international literature on spatial inequalities in distance education. While ODL is often positioned as a solution to geographic barriers, our findings reveal that geographic location continues to shape the quality of the educational experience even within distance-learning systems.

Recent international research provides a framework for understanding these disparities. Zahl-Thanem and Rye (2024) demonstrate that urban-rural educational gaps persist and may be widening. Ogunode and Abozaid (2025) argue that the geography of distance education encompasses not just access but the quality of engagement and outcomes.

In the Sri Lankan context, these spatial disparities likely reflect several interconnected factors: uneven distribution of digital infrastructure, human resource disparities affecting tutoring quality, and varying administrative capacity across regional offices. The post-pandemic context has heightened attention to these regional inequities (Zamir & Wang (2023).

5.4 Implications for Policy and Practice

Collectively, these findings reinforce the importance of designing flexible, context-aware academic support mechanisms. The strong positive perceptions of mentoring and interactive learning sessions underscore the critical value of personalized, practice-oriented support in teacher education. However, the moderate satisfaction with self-learning materials, online support, and feedback highlights areas requiring targeted intervention.

The significant variations across study centers have the most serious implications for institutional policy. Addressing these disparities requires infrastructure investment in underserved centers, standardized training for tutors, enhanced quality assurance with center-specific monitoring, and technology solutions for low-bandwidth environments. Rotar (2022) emphasizes that support interventions must be strategically embedded throughout the student learning cycle.

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6. Conclusion and Recommendations

The overall analysis reveals that academic support services in teacher education programs within the open and distance learning context are largely effective in key areas such as day schools, mentoring, and assessment feedback. Nonetheless, several areas require attention, including the structuring of mentoring programs, the enhancement of self-learning materials for independent study, and the mitigation of technical barriers in online learning environments. Addressing these challenges through systematic planning and learner-centered improvements can significantly enhance the academic experience and outcomes of distance learners in teacher education programs.

The study's findings, grounded in both Tait's (2000) tripartite framework and Keller's (1987, 2010) ARCS Model, demonstrate that while cognitive and systemic support are generally strong, affective support, particularly in the form of timely feedback and accessible counselling, requires enhancement. Moreover, the significant variations across study centers highlight the need for institutional vigilance in ensuring equitable service delivery across geographically dispersed learning environments. The absence of significant differences between B.Ed. and PGDE programs suggests that the institution has successfully standardized support services across different academic levels, which is a strength that should be maintained and further developed.

Based on the findings, the following measures are proposed to improve the academic support system for learners in OUSL's B.Ed. and PGDE programs:

Improve Academic Counselling Accessibility: Ensure timely academic counseling, especially during key periods such as registration and add/drop periods. Expand counselling services to include proactive outreach to students who may be experiencing difficulties. Consider implementing a tiered counselling system with dedicated counsellors for different stages of the student journey, from orientation through graduation.

Strengthen Day School Feedback Mechanisms: Implement systematic processes to collect, analyze, and act on student feedback to resolve queries and improve instructional quality. Consider establishing regular quality assurance reviews of interactive sessions, including student evaluation forms and peer observation systems for tutors, to ensure ongoing quality improvement.

Standardize Assessment Practices: Provide clear assignment guidelines and ensure feedback is prompt, detailed, and constructive to support learning. Develop training programs for tutors on effective feedback practices and establish institutional timelines for feedback delivery (e.g., within two weeks of submission). Create rubrics and exemplars to standardize assessment quality across programs and centres.

Enhance Self-Learning Materials: Redesign modules and study guides to promote independent learning, integrating interactive elements and supplementary resources aligned with ODL principles. Consider incorporating multimedia elements, self-assessment tools, and reflective prompts to support learner autonomy. Regular review and updating of materials based on student feedback and emerging pedagogical practices should be institutionalized.

Establish Consistent Mentoring Structures: Introduce standardized mentor training and clear protocols to ensure high-quality support during teaching practice. Develop a mentoring handbook and conduct regular workshops to enhance mentors' skills in providing constructive feedback and emotional support. Implement a matching system that considers mentor experience, subject expertise, and geographical proximity to ensure optimal matches.

Strengthen Online Learning Infrastructure: Improve the reliability of OULMS and incorporate interactive content to enhance engagement in online learning. Invest in technical support services, upgrade server capacity, and provide comprehensive training for both students and tutors on the effective use of online platforms. Consider implementing a helpdesk system with extended hours to address technical issues promptly and efficiently.

Address Regional Disparities: Conduct regular assessments of support service quality across study centers and implement targeted interventions to address identified gaps. Ensure equitable resource allocation and establish minimum service standards applicable to all centers. Consider creating a center of excellence program that recognizes and disseminates best practices across the network.

These recommendations aim to address current gaps, creating a more responsive and learner-centered support system that improves student engagement, retention, and academic success in OUSL's ODL teacher education programs. By implementing these targeted interventions, the institution can further strengthen its position as a leader in open and distance learning in South Asia, ensuring that all learners, regardless of location, gender, or programme, receive equitable and high-quality academic support. Future research should investigate the longitudinal effects of these interventions on student outcomes, including completion rates, academic performance, and the professional competence of graduates.

Declarations

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Competing Interests
None.

Ethical Approval
This study involved a survey of participants; therefore, formal ethical approval was not required as it posed minimal risk to participants. Permission to conduct the study and collect data was obtained from the Head of the Department and the Programme Coordinators of the respective programmes. The research was classified as low-risk and carried out in accordance with the ethical research guidelines of the Open University of Sri Lanka.

Author's Contribution

Author [1] (F.M. Nawastheen): Conceptualization, Data curation, Formal analysis, Writing – original draft.
Author [2] (K.S.P. Sisindra): Supervision, Investigation. Methodology, Resources , Review of literature, Writing
Author [3] (W.M.A.P.S. Fernando): Review of literature, Methodology, Resources, Writing – review and editing.
Author [4] (N.G.L.S.J. Liyanage): Validation, Visualization. Writing – review and editing
Author [5] (R.S. Dilakshan): Data collection, Project administration, Writing – review and editing.

Data availability
The data generated and analyzed during the current study are not publicly available due to confidentiality agreements with participants and institutional restrictions. However, the dataset supporting the findings of this study is securely stored by the authors and can be made available from the corresponding author upon reasonable request.

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