

Acquired Versus Learned Systems in Second Language Acquisition: A Review of Studies Based on Krashen's Hypothesis

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Abstract—This research aimed to explore the contribution of Krashen's learned-acquisition hypothesis within the context of second language education. Due to a lack of empirical research exploring teaching methods specifically founded upon the learned and acquisition systems of the said hypothesis, a contingent approach was taken whereby the learned system was deemed congruent with teacher-centred learning and the acquisition system was reflective of student-centred learning due to the conscious and subconscious components, respectively. This research adopted a secondary methodological approach to permit the design and completion of a literature review, which was needed to collectively evaluate original (primary) evidence sources regarding evidence for or against Krashen's theory of second language acquisition and an acquisition-learning distinction. The findings of the research showed that student-centred learning offers varied advantages over teacher-centred learning in terms of outcomes of value within second language education. Moreover, the findings showed that student-centred learning was associated with meaningful and statistically significant improvements in students' affective wellbeing and academic performance within second language education. Such findings were observed across child and young adult student groups and thus, show the dynamic utility of student-orientated learning for enhancing education quality and related outcomes.

Index Terms—acquisition, learning Krashen's theory, systematised review

I. INTRODUCTION

This systematised review aims to explore the empirical evidence supporting or refuting the hypothesis of an acquisition versus learning distinction. This theory was initially proposed by Stephen Krashen within the context of second language acquisition, which posits that the learning of a second language comprises a different process than that of acquiring the said language (Krashen, 1982). Krashen's theory comprises five core hypotheses, which include: the monitor, input, affective filter, natural order and acquisition-learning hypotheses (Schutz, 2019). The acquisition-learning hypothesis is the most critical of the said hypotheses with Krashen implying that performance in learning a foreign language comprises two independent systems, known as the acquired and learned systems. The acquired system describes that a second language is acquired as a result of subconscious processes, similar to those that occur in children learning their first or native language. As such, the acquired system relies upon the use of and engagement in meaningful communication within the desired language, in order to stimulate cognitive pathways associated with learning and memory (Hunkler, 2016). In contrast, the learned system represents a product of usual or formal teaching instruction, in which, there is a conscious component of learning a second language. Thus, teacher-orientated models tend to be associated with the learned system, while student-centred models tend to support the acquired system (Chen, 2022).

While Krashen's linguistic-learning hypothesis is one of the most popular theories that remains accepted and in use within second language education, the hypothesis observes some challenges and limitations (Hunkler, 2016). These include that Krashen's theory does not assume that grammatical competence is acquired or learned through practice of using a language; this has been disputed by other educationalists within second language education (Bailey & Fahad, 2021). In addition, the learning-acquisition hypothesis implies that a second language ability arises from either of said systems and thus, failing to acknowledge the potential combined value of such processes and their inter-relatedness in contributing to language fluency or competency (Bailey & Fahad, 2021). Given the persistently growing demand for second language ability and fluency across nations, it is important to understand the value of this educational theory in influencing language education and related outcomes, particularly in light of the relative ease of first language acquisition and evidence showing that second language acquisition can be difficult to achieve (Eaton, 2010; Steber & Rossi, 2021).

To understand the value of the acquisition-learning hypothesis further, it is important to explore the background evidence. Thus, the remaining structure of this research comprises a background literature review, which summarises the evidence regarding what is already known about the value and contributions of Krashen's linguistic theory to educational outcomes. This section terminates with the primary research aim, followed by the methodology that comprises a description and rationale for the methods utilised for literature search, evidence selection, data extraction,

quality appraisal and results synthesis. The key findings are then discussed in the proceeding section, followed by a discussion of the evidence with the limitations of the review and implications for ongoing educational practices and related guidelines and policies pertaining to second language education provision. Finally, a brief conclusion is provided, which summarises the key elements of the research.

II. LITERATURE REVIEW

A scoping search for key literature was undertaken using the databases described in the following methodology. Pertinent research for the background context of this review is described in this section. This provides the rationale for reviewing the literature using a systematised means, which has been informed by the research question that concludes this section.

In an author-inspired case, Bailey and Fahad (2021) describe the contributions of Krashen's hypothesis to their own leaning of English as a second language. The authors denote how Krashen's theory remains popular among second language teachers but such persons have tended to believe that inter-individual variances in language ability are likely to arise from learner identity and motivation, as opposed to differences across subconscious and conscious learning, albeit motivation influencing the conscious or learning-based hypothesis. The authors also describe their learning of a foreign language as a self-guided journey, in which, at the time of learning in Iraq, English teachers were scarce and their teaching ability was poor. Thus, the authors relied upon self-guided exploration of English-based materials to assist in their learning, which enabled them to marginally pass the examinations. These findings would fall in support of the acquisition system of Krashen's hypothesis in light of the subconscious component influencing language performance. However, due to the guidance provided by the teachers, albeit limited, this also implies that the opposing learned system also contributes to second language learning, although the overall weighting may fall in favour of an acquisition dominant process. Although this case study provides valued insight into the learning of the authors in regard to English as a second language over time from student to teacher, the findings may not be reflective of generic student populations.

Research specifically exploring the association between teaching approaches consistent with the learned or acquired systems of Krashen's theory upon second language ability has been lacking. Thus, concepts or teaching approaches congruent with both of these systems are briefly explored as to provide rationale for this position for the systematised review. As the learned system is one of conscious learning, it can be deemed congruent with teacher-orientated or teacher-centred models whereby students rely upon the extent and quality of teaching provided by instructors through formal or direct means (Ameliana, 2017). In contrast, student-centred models of learning encourage individuals to engage in self-directed learning through the use of provided or readily accessible materials and thereby, teachers tend to play a more facilitative role in the learning process (Wright, 2011). There has been a recent increase in the uptake and reliance upon student-centred models of teaching second languages across the globe in light of the COVID-19 pandemic and the social containment restrictions placed upon populations of students (Marin, 2022). Dyadic models of teaching second languages also exist and tend to be described as learning-centred models, in which students are encouraged to embrace self-directed learning to permit consolidation of content taught via teacher or instructor provided means (Bremner, 2019).

Student-centred learning and hybrid models of education within the context of second or foreign language teaching has also been possible through the considerable advances in information technology, software applications and the internet, permitting students to access a broader and more interactive and dynamic range of materials (Wright, 2011). In addition, models based on remote learning have provided students with greater freedom and convenience of learning second languages, which have been associated with positive performance and attainment in light of conforming to and/or overcoming the varied barriers to second language acquisition (Tao & Gao, 2022). Hybrid models within second language education have also become important options to help students excel in and attain their language desires given the removal or minimisation of power and authority that has been traditionally conveyed by instructors within formal models of education provision (Johnson & Majewska, 2022). Indeed, student preferences for learning a second language tend to favour styles that are conducive to indirectness in learning with interactive, meaningful and enjoyable components, all of which, formal models have tended to lack (Lorenzo, 2016; Moenikia & Zahed-Babelan, 2010).

Aside from Krashen's learning-acquisition hypothesis, other literature has explored the contributions of alternative theories, such as Chomsky's theory of innateness, which implies that children have an intrinsic ability and window of opportunity to acquire language. This suggests that language acquisition is biologically determined and this has become known as the language acquisition device (Sobecks, 2020). However, limited empirical evidence exists to support Chomsky's theory and moreover, much of the theoretical basis is centred around first as opposed to second language acquisition (Kuhl, 2000). In a similar regard but with some association with the acquisition system of Krashen, Vygotsky's theory of sociocultural development implies that language acquisition requires exposure and engagement within society, in order to interact, experience, model and reflect upon external experiences (Mcleod, 2023). Such experiences help to induce cognitive and neural processes that promote learning or acquisition of a subject but in the context of second languages and through the principle of the zone of proximal development, there has been a lack of empirical research to support its contributions in the field (Pathan et al., 2018).

While a similar paucity of research has led researchers to explore the contributions or value of the acquisition and learning systems of Krashen's hypothesis within the context of second language ability, wider research may be used to explore the distinction more definitively. Therefore, this research aims to uncover the potential distinction between the acquisition and learning systems to address the noted gap. This aim has been translated into a central question statement to provide focus for the investigator, which is:

A: Does the empirical research support a distinction between the acquisition and learned systems of Krashen's theory among students undertaking a second language?

III. METHODOLOGY

This research adopted a secondary methodological approach to permit the design and completion of a literature review, which was needed to collectively evaluate original (primary) evidence sources regarding evidence for or against Krashen's theory of second language acquisition and an acquisition-learning distinction in this process (Gough et al., 2012). To add rigour in the review methods, a systematised form of review was utilised as such reviews tend to adopt a similar extent of methods typically used within systematic reviews due to minimising the risk of various errors and biases (Grant & Booth, 2009). A systematised, as opposed to systematic, review was undertaken in light of completion by a single investigator and due to the key findings comprising a narrative synthesis of the evidence identified (Sataloff et al., 2021). The search for literature of relevance to the topic area was undertaken using electronic databases commonly utilised within other education and linguistic based reviews. These included Education Resources Information Centre (ERIC), Journal Storage (JSTOR) and the British Education Index (BEI). Rationale for the databases searched included, first, that ERIC represents one of the most popular and utilised databases within language education and thus, comprises indexing to a broad range of journals of value to the topic of interest (ERIC, 2023). Such indexing helped to capture key studies congruent with the inclusion criteria noted in a later part of this methods section. However, as ERIC does not comprise all journals and thereby, articles of relevance to the topic, the searching of other databases was important in reducing the risk of searching bias. This is a type of bias that can arise, often in scoping reviews, where non-extensive or non-informed searches for literature remain incomplete and thus, one or more studies of value to a topic are precluded from evaluation and/or discussion (Aromataris & Riitano, 2014).

Thus, JSTOR was also searched, particularly as this database is equally as populated in educational reviews with described indexing to over 1,000 education and linguistic related journals; yielding a source range in the order of millions of unique studies (JSTOR, 2023). In addition to JSTOR, the BEI was searched to help capture any locally specific evidence. The BEI comprises a dominance of journals and articles specific to the UK context and, thus, was evidence important to include in this review for reasons of optimising generalisability of the findings to the target populations in said nation (EBSCO, 2023). Aside from containing over 300,000 unique records, BEI also comprises a range of reports and theses, which represents Grey Literature that can be of value to review research (EBSCO, 2023). Although the searching of these databases was deemed sufficient to inform the findings of this review and to help generate a credible insight into the topic area, a key term search of Google Scholar was also undertaken to help capture any studies precluded from the indexing methods within the core databases of ERIC, JSTOR and BEI (Dixon et al., 2010). Google Scholar is a powerful search engine with links to scholarly and academic research and reports and, thus, can be useful in capturing evidence published outside of journals indexed to specific databases (Dixon et al., 2010). Additionally, a citation snowball technique was used to help identify any relevant studies based on reference lists reported among eligible studies and research included in the background and literature review components of this work. Such methods can help to further reduce the risk of searching bias while improving the efficiency and ease of identifying topic-relevant studies (Preston et al., 2015).

The search terms applied to ERIC, JSTOR and BEI were devised using the study aim and its population, exposure and outcome (PEO) elements (Pollock & Berge, 2018). This generated the basic search phrases, which included a population of 'students', an exposure comprising 'education' or 'learning' in relation to methods congruent with 'Krashen's linguistic theory' and outcomes related to 'performance' and 'attainment' in 'second language' subjects. However, to ensure the capturing of key evidence, such terms were supplemented with a range of supplementary terms including synonyms, acronyms and variant phrases (Purssell & McCrae, 2020). Such terms were combined in a series using Boolean operators with 'OR' employed to link terms and groups of terms with an optional command and 'AND' being used to mandate such links (Boland et al., 2017). Thus, the following search string was developed and applied to database search: ["students" OR "learners"] AND ["Krashen's linguistic theory" OR "Krashen's theory" OR "acquisition-learning hypothesis" OR "acquisition and learning" OR "acquisition-learning distinction"] AND ["performance" OR "attainment" OR "achievement"] AND ["second language" OR "foreign language"]. After the retrieval of literature, the records were managed using referencing software. This enabled the detection and discard of duplicate records and following this, a systematic process of filtering to determine studies most suited for addressing the review aim. This involved the use of inclusion and exclusion criteria across the two common filtering steps of title/abstract and full-text screening (Boland et al., 2017). The inclusion criteria comprised studies published in English language in a chosen period of time (past 20 years) and reporting upon population, exposure and outcome elements congruent with the review aim. Due to the complexity and nuances of the topic area, the investigator also engaged in an additional full-text screening step to clarify whether evidence sources were eligible for inclusion in the synthesis.

Data needed for evidence synthesis from studies deemed eligible for review was extracted using various steps to optimise accuracy and reliability in the process and to reduce the risk of extraction errors. This involved the use of electronic proformas and a central database to permit the direct translation of article data into the database. The extraction process was also repeated for each study to help detect and resolve any extraction errors (Pursell & McCrae, 2020). The key findings were analysed in accordance with the principles of narrative synthesis. This comprised the deconstruction of reported data into relevant components and using a descriptive, comparative and critical position to report upon findings of interest to the review aim (Ferrari, 2015). Due to the importance of critical appraisal in systematised reviews, the methodological quality of the informing research was assessed using principles outlined by the Critical Appraisal Skills Program (CASP, 2020).

IV. RESULTS AND DISCUSSION

Much of the literature identified to address the research question had focused upon examining the impact of models of education consistent with Krashen's learned or acquisition systems within the context of English as the second or foreign language. In the first study that met the eligibility criteria, Markina and Molla (2022) explored the impact of student- versus teacher-centred models upon participation among students undertaking English as a second language. A cohort of 41 secondary school students aged 14-15 years were recruited into the study. Teacher-centred education was delivered for three sessions as phase 1 followed by three sessions of student-centred education for phase 2. Students were categorised into two groups based on the lowest achievers in English as a second language; poorest achievers and poor achievers. Participation as the outcome measure was determined using a subjective teacher-based judgement of student engagement in the learning process. The results showed that both achiever groups observed meaningful improvements in participants during phase 2 relative to phase 1, supporting the value of student-centred learning in optimising participation. The extent of participation increased from 68-79% to 88-100% in the poor achiever group and from 65-74% to 87-92% in the poorest achiever group. Thus, there was an overall mean improvement of 20% in participation across groups. However, the differences between phase 1 and phase 2 were not determined using significance testing and thus, it is unclear whether the mean change of 20% is meaningful. Due to the subjective measurement of participants, there is also concern for measurement bias. Other limitations to this research included the lack of randomisation, posing a risk of selection bias, and a small sample size with a lack of power to support significance testing, posing a risk of type II error.

Other research has focused upon outcomes related to performance and attainment in second language learning, providing more insight into the comparative influences of student and teacher-centred learning. In the first and most recent example, Awla and Haji (2023) compared the effects of implementing a student-centred approach to the English as a second language classroom for a cohort of 181 university students to explore whether such teaching was superior to conventional teacher-centred learning. The authors used a mixed-methods design with quantitative and qualitative components to derive objective and subjective evidence regarding the teaching approach effects. However, no direct comparisons between student- and teacher-centred learning were conducted to address this question, rather the effects of introducing and delivering student-centred teaching were explored. The results showed that the majority of subjects were accepting and comfortable with learning via student-centred means (60.2%) and this helped to enhance their English speaking skills as the approach created a friendly, engaging and supportive atmosphere for learning. However, there was evidence of teacher guidance and support throughout the delivery of student-centred learning, thus, supporting a hybrid model of English teaching. Despite this, teachers reported that they adopted facilitative roles in the classroom and, thereby provided instructions and guidance for students to self-explore English speaking content and in practicing speaking skills with their peers. This ensured students had a greater number of opportunities to practice English speaking and in turn, this was perceived to accelerate and optimise learning of the language. Moreover, students enjoyed learning English in relation to their past and real-life experiences and through having freedom of choice regarding the aspects of English speaking to learn. This allowed students to embrace creativity within English speaking and as such, this advanced the vocabulary and ability of students above and beyond what was normally expected within the curricula of teacher-centred learning. However, some limitations to this research were detected and these may diminish the overall internal validity of the evidence. In this regard, the quantitative questionnaire was developed by the authors but with a lack of psychometric testing, there is a risk of measurement bias. The qualitative interviews were also unsupported by techniques known to enhance trustworthiness and therefore, issues of researcher subjectivity may exist.

Such findings have also been supported in two recent theses. First, Mokhtaria (2017) used a questionnaire and within class observations to explore the effects of student-centred learning upon university students undertaking English as a second language. The results revealed that the use of student-centred learning was associated with greater interactive elements in learning and collaboration between teachers and students. In addition, most students agreed that teachers adopted facilitative roles in the classroom and thereby, encouraged students to engage in peer-peer learning and self-directed learning, in order to optimise their speaking skills, pair and group work were found to support the goals. Overall, the students' oral fluency was perceived to have improved within the teacher observations component of the study and thereby, supported the prior findings of Awla and Haji (2023). In the second thesis, Mahdjoubi (2017) found that using dialogue, among other learned-orientated activities, such as role play and storytelling, were useful in supporting progress in the English speaking skills of university students undertaking English as a second language.

Students were even found to hold strong preferences for learner-oriented teaching over traditional teacher-centred learning due to its greater enjoyment, convenience, freedom and perceived effectiveness of the approach upon English ability. However, it is worthy to note that both these studies observed issues with quantitative measurement, including risks of measurement bias, and qualitative data collection with limited measures used to optimise credibility, dependability and/or confirmability of the findings. Additionally, the findings were based on relatively small cohorts of students and thus, the evidence may not be reliably applied to other student populations undertaking second languages.

In a comparative study and one with fewer threats to internal validity, Kassem (2018) investigated the relative effects of student- and teacher-centred instruction upon a cohort of university students who were undertaking English as a second language. Students were divided into two classes for a period of 12 months with one exposed to student-centred learning and the other acting as a teacher-centred control. The nature of the intervention and control conditions were adequately described to reduce concern for exposure classification and comparative biases. Notably, only one of the key outcomes measured were related to academic performance, as most comprised measures of anxiety, motivation, attitudes, self-efficacy and beliefs in learning English as a second language. Language achievement was measured based on post-completion test scores. Although this may impair conclusions regarding the comparative efficacy of student- and teacher-centred instruction, the measures are important in that they would, at least in part, influence performance and/or attainment in second language acquisition. The key findings showed that the student-centred group observed significantly higher (more favourable) scores across all affective outcome measures, than compared to controls; anxiety: $t=4.23$, $p<0.01$, motivation $t=4.79$, $p=0.01$, attitude $t=5.73$, $p<0.01$, self-efficacy $t=2.74$, $p=0.009$ and beliefs $t=3.18$, $p=0.006$. Such improvements in affective outcomes also co-existed with significant improvements in academic achievement among the student-centred group, compared to the teacher-centred controls (mean scores 216.2 v. 206.0, $t=4.18$, $p<0.01$). Such findings are in support of the acquisition system of Krashen's theory, although the outcomes may need to be interpreted with some caution due to the non-randomised comparative design, which precludes inferences of causation between the exposure conditions and outcomes reported.

Despite some limitations to evidence quality, other studies eligible for inclusion in this research have provided support for the benefits of student-centred learning over teacher-centred instruction within second language education. For example, Lak et al. (2017) explored whether the reading comprehension of 120 students who were undertaking English as a second language differed between student- and teacher-centred approaches. Participants were aged 10-16 years and thus, being younger than the cohort previously reported, could have implications upon teaching approach effectiveness. In addition, the duration of the conditions was shorter and less intense, than the previous study and this may have also impacted the efficacy measures. The duration of the conditions was 10 sessions of 60 minutes delivered over a period of five weeks. The results first showed that students in the learner-centred group exhibited significant improvement in reading performance from baseline to the five week follow-up point (mean 3.27, $T=6.10$, $p<0.01$). Moreover, the comparative analysis revealed that learner-centred teaching was significantly more effective, than teacher-centred instruction upon reading performance and thereby, further supported the findings of the earlier study and the acquisition hypothesis ($t=2.05$, $p<0.05$). Again however, the relationship between the teaching type and reading comprehension cannot be inferred with causation due to the nature of the non-randomised design. To take another example, Zohrabi et al. (2012) conducted a similar comparison between student- and teacher-centred learning among students aged 16-17 years undertaking English as a second language. Such comparisons were conducted for a single lesson lasting at least 45 minutes with outcomes being centred around test scores of an English language assessment. The results showed that students in the student-centred group attained significantly higher (better) test scores, than the teacher-centred group (mean 12.2 v. 9.0, $t=5.13$, $p<0.01$). Moreover, students in the student-centred group attained significantly higher test scores, relative to baseline, than compared to the teacher-centred group ($p<0.05$). Such findings were also validated with a small number of interviews with students, which revealed that student-centred learning was more interesting, enjoyable and engaging when compared to the teacher-orientated group. Overall, the findings of the research showed that student-centred learning offers varied advantages over teacher-centred learning upon outcomes of value within second language education. Evidence was mostly found within the context of English as a foreign language, although the cohorts were mixed with both child and young adult student populations. The results showed that student-centred learning offered positive effects upon students' affective and more importantly, academic performance. The findings were validated by different evidence sources with convergence of results using quantitative and qualitative means, which helps to limit concern for biases that were detected across other included studies.

The importance of student-centred learning in enhancing affective variables, as was evidenced in the study of Kassem (2018), should not be undermined in light of other research showing that affective factors can account for the majority of variance in academic achievement in second language education. In one such research, Alrabai and Moskovsky (2016) found that the combination of motivation, attitude, anxiety, self-esteem and autonomy accounted for 85-91% of the variance in performance at L2 level of second language learning, which were statistically significant and independent effects. Thus, the findings of this research suggest that student-centred learning can benefit second language education through enhancing affective variables that influence learning and/or acquisition of language. In either regard, the primary or most favourable mode of language acquisition appears to be student-centred and thereby, supported a distinction between learning and acquisition with the acquisition system of Krashen being advocated from the cited evidence (Schutz, 2019). Other research has explored the impact of such affective variables as single entities

upon performance and attainment in English as a second language and similar findings that such factors positively contribute to such attainment with significant effects have been reported (Alrabai, 2017; Asif, 2017; Ghorbandordinejad & Afshar, 2017). The value of learner-centred education upon academic attainment in varied subject areas has been supported in a meta-analysis of 42 quantitative studies as reported by Li et al. (2021). The authors found that there was a highly significant effect of learner-centred education upon performance and attainment measures versus teacher-centred approaches (effect size 0.54, 95% CI 0.37, 0.71, $p < 0.001$). However, there was excessive inter-study heterogeneity detected ($I^2 = 99.8\%$) and thus, suggested that the effect size could represent a misinformed estimate due to potential biases among the informing studies. This issue of inter-study heterogeneity was detected among studies included in this review and thus, suggested that future research should focus upon optimising the standardisation of exposure and outcomes measures to help generate more valid and comparable evidence.

However, the findings of this research also showed that student-centred models of learning were not solely in use with some degree of teacher-centred learning remaining, albeit in the form of facilitative, supportive and guiding roles. This suggests that hybrid models of learning within second language education may be most useful in optimising academic performance and attainment across student age groups. Indeed, the use of hybrid or blended learning has been necessary in recent times in view of the COVID-19 pandemic and its isolating nature, necessitating students to engage with education via remote or distant means (Li, 2022). The use of blended learning has been important in mitigating disruptions or delays in education provision for students undertaking varied subjects and thereby, helping to diminish concerns regarding the potential adverse impact of the pandemic upon academic and life prospects (Wahyuningsih & Afandi, 2023). Several studies have recently shown that blended learning modes are associated with superior academic outcomes, compared to both pure student-centred learning and teacher-centred learning (Akyildiz et al., 2021; Ali et al., 2023; Sahni, 2019). Teachers of English as a second language have also advocated blended learning as the best means to providing education due to its positive effect upon students' wellbeing and the vast academic potential (Huong & Hang, 2023). Such reports have also been supported in a recent systematic review of the impact of online and blended learning during the pandemic upon students undertaking English as a second language (Mustafa & Saeed, 2023). Based on evidence drawn from 24 studies, the cited authors showed that all papers reported benefits of online and blended learning, although almost half of the studies highlighted some barriers to student engagement with such learning, such as technical difficulties and limited access to information technology (Mustafa & Saeed, 2023). A meta-analysis of blended learning also revealed that more favourable academic outcomes were observed among students undertaking STEM (Science, Technology, Engineering and Mathematics) subjects, compared to students in non-STEM subjects (Vo et al., 2017). However, a reasonable effect size was observed for the latter group, suggesting that blended learning would promote desirable academic performance in students undertaking second languages (effect size = 0.210 versus 0.496 for STEM).

From a theoretical perspective, the emerging advocacy for blended learning suggests that the learned and acquisition systems of Krashen's hypothesis remain pertinent to contemporary education. However, it appears from the wider literature and the findings of this research; that greater weight is assigned to the acquisition system as students appear to benefit from learning through varied non-instructed means and particularly, via online systems (Dziuban et al., 2018). In response to the original research question (*Does the empirical research support a distinction between the acquisition and learned systems of Krashen's theory among students undertaking a second language?*), the findings of this research suggest that there is a clear distinction between the acquisition and learned systems of second language education given the superior and consistent positive impact of student-centred learning upon performance and attainment outcomes. Thus, the unconscious exposures to learning content and stimuli associated with learning a second language appear vital to enhancing academic outcomes in this context. It is important to consider that education in second languages requires a teacher- or instructor-guided element, particularly as learning English as a second language has been described as one of the most challenging and difficult to attain fluency (Raviv et al., 2021).

V. CONCLUSION

In summary, this review of the literature aimed to explore the contribution of Krashen's learned-acquisition hypothesis within the context of second language education. Due to a lack of empirical research exploring teaching methods specifically founded upon the learned and acquisition systems of the hypothesis, a contingent approach was taken whereby the learned system was deemed congruent with teacher-centred learning and the acquisition system was reflective of student-centred learning due to the conscious and subconscious components, respectively. Studies included in this research were based on reviewing the most relevant and best available evidence and, thus, the findings can be used to support refinements in education provision within the subject of second language education. Studies included here consistently showed that student-centred learning was associated with meaningful and statistically significant improvements in students' affective wellbeing and academic performance within second language education. Such findings were observed across child and young adult student groups and thus, showed the dynamic utility of student-orientated learning for enhancing education quality and related outcomes. Perceptions and views of students also revealed that student-centred learning was much more enjoyable, engaging and convenient when compared to traditional teacher-led instruction and thus, converged with the quantitative academic outcomes reported. The utility of student-centred learning also appears to have increased substantially due to and after the COVID-19 pandemic and the

need for educational institutions to sustain education provision and avoid delays or gaps in education by transitioning teaching models to those with online and remote conditions, and due to the wider reach of education in the new paradigm. It appears that such methods are necessary for the foreseeable future, particularly with empirical evidence to support its positive impact upon outcomes in second language education.

However, a degree of teacher-led instruction is needed within second language education given the complexity and challenges of such subjects. Hence, hybrid or blended modes of learning have risen in popularity and utilisation within this sector. However, future research is needed to further explore the impact of blended learning upon attainment and performance within second language education. Overall, the findings contribute new knowledge to the literature base and, therefore, the author recommends that educationalists responsible for teaching second languages adopt student-centred or dominant models of teaching, in order to optimise the opportunities and attainment of students. The research was based on reviewing the most relevant and best available evidence and, thus, the findings can be used to support refinements in education provision within the subject of second language education.

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