

## Contextualized Transformative Framework for Implementing ePortfolio-based Assessment

Yan LI \*

Baoji University of Arts and Sciences, China

### Abstract

Both the notion of Transformative learning and ePortfolios in education have gained increasing recognition and application in the latest decades. This article aims at exploring the contextualized transformative framework for implementing ePortfolio-based assessment. Therefore, it is initiated with a review of previous studies on transformative learning and ePortfolio assessment. Then the research questions are proposed on the basis of motivations and challenges from literature review. Next a qualitative case study was employed to find out the implementing ePortfolio assessment procedures via instrument of classroom observation. Finally, a transformative framework for ePortfolio-based assessment was reported. This study implies theoretical justification of transformative learning theory into the field of ePortfolio assessment practices.

**Keywords:** Transformative learning, ePortfolio, assessment strategies

### INTRODUCTION

Transformative learning in education has gained increasing recognition in the latest decades. It is considered as a meaning scheme and essential to changes for individual experience and critical reflection (Illeris, 2014). In addition, ePortfolio in the educational field is used primarily for showcasing learning outcome, learning process and assessment approach (Pospíšilová & Rohlíková, 2023) among which ePortfolio assessment, in nature, represents an alternative approach to language assessment and became central in classroom assessment practice (Shao-Ting & Hung, 2013). The marriage of transformative learning theory and ePortfolio assessment practice is believed to create a compelling medium for fostering language learning and assessment.

This article aims at exploring the contextualized transformative framework for implementing ePortfolio-based assessment. Therefore, it is initiated with a review of previous studies on transformative learning and ePortfolio assessment. Then the research questions are proposed on the basis of motivations and challenges from literature review. Next a qualitative case study was employed to find out the implementing ePortfolio assessment procedures via instrument of classroom

---

\* **Correspondence:** Yan LI, Email: [yli37536@gmail.com](mailto:yli37536@gmail.com)

observation. Finally, a transformative framework for ePortfolio-based assessment was reported.

## LITERATURE REVIEW

### Overview of Transformative learning

Transformative learning refers to “the process of effecting change in a frame of reference—the structures of assumptions through which we understand our experiences” (Mezirow, 1997, p. 5). Moreover, Mezirow (2000) further defines the transformative learning theory as “the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that has proved more authentic or justified to guide action” (p. 112), which is composed of critical reflection, centrality of experience and rational discourse. In his research, ten phases concerning transformation are disorienting dilemma, self-examination, critical assessment of assumptions, recognition, exploration of new roles or actions, plan development, acquisition of knowledge and skills, trying out and forging new relations (Mezirow, 1994). Besides, Mezirow (1981) identified critical characteristics of transformative learning as learning process, learning outcomes and learning conditions supportive of such learning. An age wherein empirical strategies of tutorial studies are taken into consideration for implementing tactics in classroom pedagogy. Yacek (2021) also suggested that transformative learning theory has already been validated to be a vital contribution to empirical studies on technological know-how training. How plenty of the transformative impact of better training is due solely to engagement with path content material as opposed to the function wider acquisition in curriculum and co-curriculum activities on campus is now known.

In academic studies on transformative learning the primary interpretive technique is broadly adopted. The researcher interviews a small variety of people in precise environments or associated with precise issues, does a thematic evaluation of the interview data, and reviews on several themes that seem within the data. Interviews are regularly used for comparing transformative learning. Interviews can elicit consciousness on learners' tale from a specific level to advantage perception into the strategies or effects of learning, in addition to tune into learners' attitude changes (Romano, 2017).

Transformative learning theory is from the constructivist paradigm holding the view how learners understand and interpret their experience is the key to meaning-making and process of learning. Both are transformed via reflection happening in the problem-solving whereas the latter is focused, shaped and delimited by frames of references for the purpose of greater awareness, responsibility and effectiveness in full realization of learning. All the conditions serve to facilitate learning with new knowledge and skills. Mezirow (1991) identified eleven phases in transformative learning (pp.168-169):

- . Disorienting dilemma
- . Self-examination with feelings of fear, anger, guilt or shame

- . A critical assessment of assumptions
- . Recognition that one's discontent and the process of transformation are shared
- . Exploration of options for new roles, relationships, and actions
- . Planning a course of action
- . Acquiring knowledge and skills for implementing one's plans
- . Provisional trying of new roles
- . Renegotiating relationships and negotiating new relationships
- . Building competence and self-confidence in new roles and relationships
- . A reintegration into one's life on the basis of conditions dictated by one's new perspective

### **ePortfolio assessment practices**

Colleges and universities can use ePortfolios to provide a framework capable of organizing curricular and cocurricular activities and assessing students' artefacts (Hubert, Pickavance & Hyberger, 2015).

Therefore, many studies have been done in qualitative approach to explore frameworks and models of ePortfolios assessment. For instance, Wirawati Ngui (2019) designed an ePortfolio framework for academic writing in the second language acquisition context focusing on assessment for learning and theory of constructivism which illustrates more emphasis on learner involvement and assessing progress. Nguyen (2015) proposes an ePortfolio-based learning model fostering self-regulated learning in tertiary education. Lamberthus and Kundre (2021) use development research method and find the Mahara is the prior platform for authentic assessment of learning process. Khoo and Jano (2015) conceptualise ePortfolio as a framework of collection, reflection, feedback, and finally rectifying and revising according to feedback comment. In the same year, Hsieh demonstrated a MAR model, comprising three stages of motivation (M), action (A), reentry (R). Lam (2019) believes that ePortfolio-based assessment should be enacted in four stages: collection, selection, reflection and evaluation. Balaban, Ravet, and Sobodic (2019) designed a five-component EPMF (ePortfolio Maturity Framework), including ePortfolios, people, learning, assessment, and technology.

Broadly, Shao-Ting (2012) divides the stages for ePortfolio assessment into stage of orientation and preparation, as well as the implementation stage over time. To discuss translation teaching and learning, a framework for ePortfolio assessment model for translation skills was proposed by Handayani (2022) which focuses both on the learning and assessing process.

In summary, the previous studies on how to operate Transformative learning and ePortfolio assessment were quite concrete whereas those on how to develop ePortfolio-based assessment and instruction integreted with transformative learning is still very

rarely found. This article aims at providing EFL lecturers with transformative procedures for implementing ePortfolio-based assessment. Accordingly, the essential research question was intended to respond: 1) What are the actual instructional practice of ePortfolios and assessment in EFL classroom settings? 2) How does the Transformative learning Theory contextually and procedurally adapt to facilitate the practice?

## **METHODS**

### **Samples and materials**

This study was conducted in a well-equipped university in western China. All non-English major undergraduates are required to take the College English course. Purposive sampling was employed in this research because electronic portfolio integrated with assessment has drawn little attention in education circle specifically in learning context of English as A Foreign Language in China, thus the participants are rare and hard to find. The research participants comprised two lecturers involved in implementing e-portfolio use in their modules as an assessment strategy. The research participants were chosen because they have lived experience of and were involved in the ePortfolio use as the phenomenon under investigation (Creswell, 2017).

### **Data collection**

Through classroom observation, the researcher sought to understand why the participants behaved in a certain way and what physical factors trigger or support their behaviour as well as how these data can assist this study in arriving at a conclusion. Besides that, the observation data gathered was used to support findings gathered from the interviews conducted and the thematic analysis for further clarification of research objectives and research questions. For the purpose of this study, direct observation was used to gain data and understanding of implementation process and factors of electronic portfolios assessment in the EFL teaching settings.

For the purpose of this study the analysis of the data sought to: generate common themes; then describe what was occurring; and finally provide an interpretation of the ways in which the participants were engaging with the ePortfolios.

The observational data were first made familiar and transcribed into verbatim text which were read and re-read with notes of the most relevant keywords to research topic. Then the initial keywords were summarized into features representing each data item. Next initial codes relevant to specific research questions were grouped into potential themes.

From this, sections of data from the interviews and observations which had meaning to the research questions were identified into themes; these could be sentences, paragraphs or even just one word. In this study, the framework of ePortfolio-based assessment was reconceptualized according to this step-by-step analytic guide.

The first classroom observation was video-recorded on September 15th 2021. During the 80 minutes, it is verbally found that this session for English teaching was started with review and introduction of topic as well as the text organisation and language focus

*Today we are going to learn the language points of the text “deaf DJ”, including words, phrases, sentence patterns, word-formation. So the learning objectives: how to use the vocabulary and expressions about pursuit of dreams. At the end of this unit, you need to write a paragraph “your dream job”.p.14, the 1st paragraph, and are there any volunteers to read it? Then the text vocabulary: famous, world-renowned, universally-acknowledged, distinguished. Also, two famous people: Steve Jobs and Qian Xuesen. The brief introduction of them and the characteristics. CEO is short for the chief executive officer. Then ask Ss to submit the 2nd version of learning profile.*

The lecturer started the class with identified learning goals and students' profile which are described as the initiating step in implementing ePortfolio and assessment practice in classroom instruction. Afterwards, the lecturer appraised the assignment in last session with good examples, then explained the problems and weaknesses. This aimed at encouraging students' awareness and motivation while creating the cover page “Learning Profile” (See Appendix) for individual ePortfolios. The feedback and peer-assessment were utilised in this classroom instruction. This may take an in-depth look into ePortfolio role in the initiating stage of teaching, learning and assessment process.

The Lecturer stated the standards and writing steps before writing independently. Then students were divided into groups to share their essay and raised questions about other team members' works. During this stage, students communicated with each other to discuss their writings.

*others need to write the three questions down on the back of your writing sheet. Afterwards, your writing should be corrected and revised according to the advice from your group members. I will give corrections after peer-and self-assessment, eventually, your paragraph-writing should be finalized and submitted to your EP. The objective is for a refined writing after these steps conducted.*

*...after corrected some writings I found out the general problems about writing Chinglish is very common. You have to do. Then pursue or chase your dream.*

Other than the prompted questions, the formative assessment techniques such as self-assessment, peer-assessment and feedback were also used. In her teaching, the summative assessment such as quiz and formative assessment such as self-and peer-assessment were applied in this lesson. The aftermath of quizzes, tests and exams were also used for formative purposes. In the peer-assessment activities mentioned in research question one, gradings among classmates was found useful, with the writing assignments, and especially helpful where students were required to form the marking standards according to the assessing criteria provided before writing, the assignment focused on quality criteria relevant to the products. After peer gradings, lecturers reserved time for further discussion of the marking process.

Generally, the feedback focusing on needs is capable of motivating students to improve and enhancing of future effort and success, also to some extent it closes the variations from lower achieving students who may be disadvantaged by the results of summative assessment.

*Let's get started...Distribute writing to Ss and reflection should be done at the first step with questions asked by yourselves:1.how many minutes did you spend on your writing? 2.how did you write?3.Do you think reading is helpful to your writing?4.Underline the words and phrases you used from the text. In 10 minutes and the group discussion will be started.*

A reflection outline of prompted questions was introduced by Lecturer to guide students' reflective practice before reviewing and revising their essays.

*... further explain about the reflective questions while observing and finding some Ss are puzzled ...remind Ss if the vocabulary about pursuit of dreams has been built and check the words used or not*

The problems confronted with this writing have been tracked and given students greater insight into the learning objectives.

During unit one, four language skills are expected by preparing a CV to introduce DREAM JOB to each group member. Students are required to use the key words and expressions instructed in the learning objectives and perform a focus group communication. At the end of this unit, students are required to finish their CV and upload the video to the QQ groups. This video accounts for 80% of the total scores. By doing so, the ongoing peer-assessment and feedback was received and more opportunity to self-reflect was given. It was stored in learner's ePortfolios as the assessment for learning objectives and knowledge, description of learning experiences and process (Gámiz-Sánchez et al., 2016). This teaching procedure came from a teaching activity in second lecturer's lesson plan stated as:

Writing a paragraph "my dream job"

Make a CV according to your writing

Sharing your artefact with group members, and peer assessment needed (at least 3 questions)

Revise your writing according to the advice from your partners

Finalise your submission

Scoring and feedback from lecturers

The ePortfolio-based assessment was outlined by seven steps during the lecturer B's writing lesson and learning accompanied with guided questions as follows:

STEP1: independently writing "My Dream Job" (before class)

STEP 2: self-reflection (with 4 questions) and check the evaluation criteria

Q1: How many minutes did you spend on your writing?

Q2: How did you write (the process)?

Q3: Do you think reading is helpful to your writing?

Q4: Have you used the key words and phrases in your writing? Please underline them.

STEP3: Peer-assessment (in groups). Share the paragraph you have written, and then Each member will provide your writing with 3 questions and the writer should answer them and write them down

STEP4: General Feedback from lecturers (Write them down on notebooks and refer them before writing practice)

STEP5: Revise your article based on self-reflection, peer assessment and teacher's feedback

STEP 6: Getting scores

STEP7: Finalise your submission into your ELECTRONIC PORTFOLIOS

Revision is one of the classroom formative activities and a finding from Conroy et al. (2008) was that 60% of revision produced improved writing quality. Self-assessment involves identifying criteria and then applying them to their own work to make judgements about whether they have met these standards and to what extent the quality has reached (Boud, 1991, p. 4).

A task of designing a poster was assigned to the first-year undergraduates in the fifth lesson by lecturer A. Thirty-three groups of students completed a "True love" poster assignment, informed about the task requirements.

#### *1. before-presenting*

*preparing speech with your partners before presenting publicly*

*then come to the platform to present to us*

*Now talk with your desk mates before presenting here about what you are going to present for five minutes*

*上台之前请把你们组的poster先发给我们的QQ群里, 大家可以先看看, 这样会更清楚一些*

#### *2. presenting*

*All right, the platform is all yours.....*

*共9 presenters and 9 posters*

#### *3. after presenting: questions and assessment*

*what was hard? What else you found it hard or easy? Right, you found it easy? please tell us how you did it?*

*what did you learn from this task?*

#### *4. checklist (10 mins)*

From the excerpts, we can see after group presentations, students were asked to grade all posters ranging from 0 to 10. Then lecturers marked the posters without seeing the scores students had previously given. When the two sets of marks were compared, it was

found that students tended to overrate the assignment, resulting in overrating or overmarking in the following respects:

- . clarify the desired outcomes
- . ask students to write down what went well and why
- . ask the group to discuss what went well and why, and
- . add comments or advice
- . ask the students to discuss on what went less well and
- . how it could be done in a different way
- . discuss with the whole group what could be done differently and how

## **FINDINGS AND DISCUSSION**

The essential research question was responded with findings from analysis and synthesis of observation data investigation: 1) The actual instructional practice of preliminary practices for ePortfolios and assessment in EFL classroom settings. Combined and compared with Transformative learning theory and finding for research questions one, the contextual Transformative framework adaptive to facilitate the practice for ePortfolio-based assessment was grounded.

### **Preliminary procedures of ePortfolio-based assessment**

Learning objectives can enhance student motivation to learn. They also influenced the assessment practices if lecturers make clear the learning assessment procedures, feedback, examples and wider range of assessment approaches. The following classroom teaching further elaborated the learning and assessment tasks. Teaching tasks or activities assist lecturers to enact their objectives with clear directions. Two lecturers have shown positive preference on these strategies. Task is the “fundamental unit of analysis motivating item selection, test instrument construction, and the rating of task performance” (Long & Norris, 2000, p. 60).

Task-based, task-centred and performance-based approach to assessment is also widely adopted in EFL classroom settings with regard to essential features of the tasks and settings, standards of performance which in this standpoint could be regarded as predictor of ability to perform tasks and proficiency whereas tasks predict real-setting performance. One example of task-centric involves task-based language assessment (TBLA). The performance consistency is referred to “accomplishment of real-life tasks within a specific contextual domain, given the ability that candidates bring to the task, so that future performance can be predicted.” (Purpura, 2016, p. 195). The factors drawn from teachers, students, and contexts should be stressed. Task-based language assessment generally assesses performance according to can-do-statements with the focus on outcomes of tasks and performance (Skehan, 1998) rather than ability level. Besides, task-based language teaching extends classroom instruction in a more communicative manner. In this lesson, lecturer A conducted a formative assessment task to appraise student learning or prior knowledge.



In the process of performing group tasks, interaction was enhanced with needed guidance from their facilitators. In this setting, teachers are practising the facilitator role needed. Further, the initial step is to assign students to different questions and then report the responses to other groups. The next step is evaluating the performance of each other's work. Each formative activity was followed with a post-course questionnaire to measure relevant facets emerging in learning experiences. Knight (2007) proposed that assessment is provided with evidence, design principles, students' engagement, effective feedback, and more public scrutiny of the curriculum design. Broader investigation of the role of assessment in tertiary education encourages further alignment of teaching, learning and assessment. The assessment tasks and activities are designed to enhance and evaluate current levels of learning formatively and summatively, as well as future learning, namely assessment future's approach. This is termed as integrative assessment (Geoffrey, 2013). Student learning achievement could be developed by providing effective feedback and formative assessment (Gibbs, 2006).

Several frameworks for assessment design exist. Baker (1992) described a performance assessment model to assess student understanding of content, including new information and prior knowledge. Vendlinski et al. (2008) encourages more specific element and use of prompted questions and suggestions. It is echoed by the content in the ePortfolio-based assessment framework (see Figure 1-1) which reflects course-related artefacts, self-and peer-assessment, feedback comments. Van Zyl and Massyn (2008) integrate the content and experiences through use of various forms of evidence and a field study report as a summative result. Accordingly formative assessment activities and classroom assessment plans are integrated into a major part as a formative classroom assessment architecture; thus the assessment approach is reconceptualised and can be subdivided into alternative assessment evidence, formative classroom assessment architecture, summative exam paper. Furthermore, Almond, Steinberg, and Mislevy (2002) stated a more systematic assessment approach with evidence-centred design which embraces activity selection, presentation, response processing and summary scoring. The formative classroom assessment is constructed into four stages: planning and constructing assessment tasks; delivery and presentation; processing students' responses to assessment tasks; making judgement.

At the start of a new semester, students were asked just in the first lecture to create a personal data form and learning profile as the cover for individual ePortfolios. At the same time, learning objectives and curriculum requirements are illustrated. At the end of each unit, students were required to submit their ePortfolios consisting of the coursework assignment completed, including the exercises on listening, speaking, writing, translating and sometimes the recording of English reading. The individual ePortfolios should also embrace participant personal information and learning background. The ePortfolios are evaluated with criteria in the form of rubrics which can reflect the constructs of ePortfolios.

From the observation process, it was noticed that students had more opportunities to work with different students in order to facilitate understanding of diverse perspectives. The electronic portfolios were defined with focus on application in EFL settings during

which students own the sense of control of their learning which is absent in conventional classrooms. The authentic learning environment promote students' satisfaction and intention.

- preparation to ePortfolios
- feedback and peer-assessment to ePortfolios
- reflection to ePortfolios
- submission to ePortfolios
- data for assessing (for) learning collected by rubrics, interviews and observations
- data organised, aggregated, and categorised
- change is evidently needed (potential improvements) to teaching and learning

Based on the lecturer teaching process, a preliminary procedure for implementing ePortfolio-based assessment in EFL classroom settings was constructed. This emphasised the leading role of lecturers during the procedures of eportfolio-based assessment (See Table 1)

**Table 1.** Preliminary procedures of eportfolio-based assessment

Phases	Description
Pre-implementation	Beginning assessment with educational values Introduction to learning objectives and ePortfolios (concepts, need, significance) Fill in personal profile and peer reviewing (3 peers at least)
Implementation	collect and upload course-related artefacts and personal artefacts observe and think about learning process Reflect on EP by answering 4 questions split into groups with discussion and feedback reflect on each unit with 4 questions exploring new strategies and approaches form learner role and identity acquire knowledge and skills experiment in future planning
Post-implementation	focus group interview about Ss' learning experiences analyzing Ss' artefacts in EP Evaluate EP used

From the observations, although electronic portfolios have been adopted to some extent in classroom assessment practices, little research has explored how to make meaningful achievements through alignment although limited use in EFL context. This Table indicated that assessment practices were imbalanced with learning activities in EFL classroom settings even though interrelated with pass rates. Apart from these mentioned contributing factors, implementation paths of ePortfolio assessment should be discussed. Hung (2012) conducted qualitative thematic analysis and implied that ePortfolios assessment can supplement conventional testing in language teaching. In addition, guidance should be developed to keep students positively involved throughout the language course. He further divides the procedures for ePortfolio assessment project into two stages: stage of orientation, preparation and implementation stage over eighteen weeks. Roberts (2018) considers the ePortfolio as learning environment guided by the design principles “being embedded across the degree programme with regular tasks for the students to complete that have a clear purpose that the students are aware of and utilise interaction patterns that mimic the structures of social media” (p. 313).

The research emphasises the learning objectives, regular participation and collaborative learning whereby the platform of ePortfolios is an agency for implementation. Moreover, Coric, et al. (2011) illustrate four pedagogical goals and three-stage electronic portfolio implementation: introduction, reflection and evaluation of ePortfolio.

Instruction is essential in confirming the success of ePortfolio enactment (Raja Harun et al., 2021). Kang, Irvine, and Furtak (2021) agreed the learning theories are fundamental to disciplinary practices, curriculum and assessment. The classroom assessment activity could be further discussed in a broader view (Shepard et al., 2018). In this sense, the components are incorporated into this system, for instance, teachers and students, resources and tools, in order to design a coherent classroom assessment activity with a commitment to a specific context. Similarly, Shepard (2018) emphasised on the role and function of learning theory in designing and using assessment. The actual assessment has received limited attention; thus, a case study of ePortfolio-based assessment is investigated.

Baume (2004) stated two components for ability-assessing, including evidence in ePortfolios and critical commentary on the achieved shown in ePortfolios and the intended learning results. Besides, the issue of reliability particularly challenges assessment of ePortfolios. The validity of alternative assessment is seldom in question, but the reliability is presumably high when validity is satisfied. Illumination of how assessment is implemented might elaborate the reliability problem (Baume et al., 2004) which is not forthcoming in present literature. Fuller (2017) stated that formative assessment use would promote student learning. Pitts and Ruggirello (2012) claimed “ePortfolios afford users the capacity to analyze and illustrate growth within the discourse and standards of a community” (p. 50), and assign beneficial assessment tasks (Egan et al., 2018). Therefore, lecturers should be encouraged to create an ePortfolio environment supporting formative classroom assessment for learning. Formative assessment is believed as a suitable teaching method to make decisions about better instruction (Black & Wiliam, 2009, p. 7). The act of assessment affects assessors and

learners. Assessors learn of student learning level and can reshape their teaching accordingly. This makes learning more satisfying and rewarding.

### **Transformative framework of ePortfolio-based assessment implementation**

Broadly, it is found that the process of ePortfolio assessment comprises three broad phases: pre-implementation phase before class, implementation phase in class and post implementation phase after class. Review was done to get the comprehensive and deeper understanding of stages in implementing ePortfolio based assessment which demonstrated with six-step procedures, initiating with introduction of what the electronic portfolio is and learning intentions. Cover page including Personal information was the priority for individual ePortfolio. It is the interest prompt for each participant who actively and repeatedly revised their profile. Besides, more artefacts, depicting learning process, embracing assignments, presentations, oral practice, group-discussion were archived. It was more complicated because the creation, reflection, evaluation and submission need more engagement and commitment. To enhance learning process, all participants were provided a set of questions for self- or peer- assessment to produce an interactive learning environment. The disparities were salient which had the potential to trigger student trial, subsequent with knowledge, language skills and competence.

Qualitative research studies small samples and is open to natural settings and unexpected findings. This is suitable for this study as it happened in the EFL context with theoretical justifications. It is helpful to focus on each data item with a conceptual framework for analysing them and also supportive in moving beyond descriptions which led to a greater feasibility and transformation of the findings.

Following the call by the Ministry of Education (2011) the pedagogical reform is a must in the “shift from an over-emphasis on passive learning, rote-memorisation and mechanical training to one that promotes students’ active participation, independent inquiry, practical ability, problem-solving skills and teamwork” (p. 1). This highlights active, collaborative and transformative learning. Assessment is an integral part of the teaching and learning process, thus effective ways of assessment for learning has officially drawn great attention. In 2020, the State Council has published The Overall Plan for Deepening the Educational Evaluation Reform in the New Era, advocating “to improve summative assessment, reinforce formative assessment, explore added-value assessment and strengthen comprehensive assessment.” Definitely, both the pedagogical and assessment reform set the aims and tasks for the educators.

Step1: introduction to electronic portfolios and learning objectives

Step2: submitting a public profile page

Step3: selecting artefacts with reflection

Step4: exploring new learning strategies

Step5: obtaining competencies and skills

Step6: social interaction and collaboration

Furthermore, construction process of electronic portfolios also requires theoretical justification. It can be linked to Social Constructivism Theory by Dewey, Kolb's Experiential Learning Theory, Flavell's independent learners and Baskin's student-centred learning. The Chapter two has elaborated the theoretical foundations applied in this research which are further interpreted with Transformative Learning Theory. It is the distinctive aspect from the former researchers, with greater contributions to the constructing and implementing procedures of ePortfolio-based assessment.

Implementation refers to "how a program is delivered in a particular setting" (Fredricks et al., 2019, p. 6), which exists in degrees along a continuum (Durlak, 1998). Based on the findings and previous studies, the implementing procedures can be framed with references on observation data as well as the transformative learning theory (See Table 2).

**Table 2** Transformative Framework for Implementing ePortfolio-based Assessment

	PHASE	DESCRIPTION
before class in class	Pre-Implementation	Learning experience profile Introduction to learning objectives and ePortfolios Fill in personal profile and peer reviewing (3 peers at collect and upload course-related artefacts and personal observe and think about learning process reflect on EP by answering 4 questions split into groups with discussion and feedback reflect on each unit with 4 questions focus group interview about Ss' learning experiences analysing Ss' artefacts in EP Evaluate EP with feedback identify the gap
after class	Post-implementation	exploring new learning strategies and approaches acquire knowledge and skills form learner role and identity experiment in future planning (including instruction Final EP submission Analyzing and scoring artefacts in ePortfolios (rubrics)

In addition, the shared decision-making, effective cooperation and communication can empower implementation and strengthen sustainability of school programmes (Durlak & DuPre, 2008). In pursuit of ePortfolio-based assessment framework, findings from above to formulate feasible implementations for each identified factors, which all hold practical relevance even though some are more evident. Miles and Huberman (1994) defined the conceptual framework as the one that "explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them" (p. 18). Table 4-4 specified implementing procedures for each factor group. For the student factors group, recommendations on use of ePortfolio-based learning and assessment and on motivating student-centred learning. For lecturer's factors, practical suggestions pertaining to formulation of instructional procedures and lecturers' roles were demonstrated.

This framework is divided into three parts including pre-implementing before class, implementing in class and post-implementing after class. In each stage, lecturers and students together are engaged in a variety of ePortfolio-based assessment tasks and activities to acquire knowledge and skills, which is continuously capable of changing and experimenting into a more open, inclusive and emotional context.

The transformative framework highlights students' strengths rather than weaknesses and suggested that ePortfolio assessment integrates teaching, learning and assessment to maximise the benefits of information and technology in the education field. This framework is paralleling earlier work on the transformative role of ePortfolio-based assessment. The rationale behind ePortfolio is to provide students with greater opportunities to control and regulate their own learning, then to move across mere information collection to in-depth understanding of evidence, and subsequently to utilise ePortfolios in their own learning process. The ePortfolios assessment is founded on student-centred and learning-oriented rationale. It also adds great value to ePortfolio-based learning. It is noticed that each group only tells the audience part of the story, which is hindering comprehensive understandings. The theoretical justification is a necessary tool to develop if the practices is to be realised. This framework is not aiming at producing a "generalized, quasi-deterministic model" (Haggis, 2004, p. 350). Rather, it depicted a complex cluster of influencing factors to organise key variables, and by integrating within EFL settings, then the unique feature of learning experience becomes self-evident for in-depth study.

Student-centred learning is a complex process (Lee & Hannafin, 2016) and an approach through which learning opportunities are produced and knowledge is rebuilt dynamically in an unlimited environment (Hannafin et al., 2014). Back to 1997, this approach emphasised how to support uniqueness among variations of individual interest, needs, competence and background by McCombs and Whisler. ePortfolio encourages students to actively engage in learning, and is capable to transform students' competency to be informed, synthesise, report and reproduce knowledge. Watty and McKay (2016) illustrated transformational potential as one of the essential aspects of ePortfolios and assessment with various perspectives interconnected to learning outcomes, including: shifting instructional plan and implementation from teacher-dominated to student-centred classroom, introducing equality and fairness from classroom hierarchies; increasing opportunities to revisit, reflect and revise in a continuous and long-term development.

In this process, ePortfolios are helpful in understanding assessment approach largely because they could connect "several disparate assignments together" (Mummalaneni, 2014, p. 45); they also empowering learning evidence such as text, images, audio and video.

Since the assessment procedures are complicated and multi-faceted, this research investigates requirements for successful implementation of ePortfolio-based assessment: clarified purposes and supportive and operative guidance to students; the pedagogy linked to ePortfolios. These are where the motivation of proposed framework remains. The holistic and overall purposes of ePortfolios from both students and

lecturers to ensure the constructive alignment in the context-specific manner. In short, ePortfolio can be transformative in terms of capturing overall learning experiences and process, enabling continuous and meaningful association across present and future, across teaching and assessing.

The ePortfolios have potential of empowering the learning if properly used; however, few teachers use it as an integrative tool for teaching, learning and assessment. Many traditional teaching and learning approaches in tertiary education using “content driven, externally devised curriculum specifications” (Poole et al., 2018, p. 12) downplay the power of transformative learning that ePortfolios could provide. This transformative framework is a quite distinctive aspect from the former researchers, with greater contributions to the constructing and implementing procedures of ePortfolio-based assessment.

Learning is not simply information reproduction and acquisition of knowledge skills, but also about transformation (Amory, 2014). Compared with Mezirow’s transformative model, this research provides broader viewpoint on experiential learning and transformative learning which are helpful to ePortfolios development in the theoretical frame. The ePortfolio-based assessment is enacted in four stages: collection, selection, reflection and evaluation (Lam, 2019). In this section, the step of selection is deliberately dropped in order to collect as much data as possible. Because the step of review is labour-intensive, the collaborative model is increasingly adopted with inclusion of formative peer review (Ring & Ramirez, 2012). This is an ongoing progress through which students receive feedback while creating their individual ePortfolios. Kegan (2009) further posits that the form is vital for learning and there is no transformation without forms. In other words, transformational learning takes place as long as students change their ways of learning for better understanding the concepts and knowledge in a certain field. ePortfolios are increasingly being applied to the educational field around the globe (Watty & McKay, 2016). It is an integral part of the learning process within significant learning environments.

The transformational power of ePortfolios focuses on active engagement and contribution to social aspect with learning process, building newly-found concepts, moving thinking forward by aligning reflection and context to learning goals and collaborative learning opportunities (Mezirow, 1997), and then ePortfolios are compared with assessment and learning system (Batson, 2016, p. 14). ePortfolio is defined as “learner’s digital evidence of meaningful connections” (Harapnuik, 2015, p. 1). Traditional teaching models tend to focus on knowledge content and skills, always ignorant of collaborative and transformative emphasis on growth and progress. ePortfolios should be in constructive alignment with the social learning environment which produces more opportunities of involvement and cooperation. This learning environment and implementation of ePortfolios as critical to student understandings of the benefits and impact their use. It echoes the statement of Egan (2018) that the way ePortfolio is implemented within the learning environment influences whether and how students use the electronic portfolios for learning.

These impacting factors are broadly categorised into technical and human aspects. In conclusion, students may learn best when lecturers instruct as the followings to using electronic portfolio-based assessment can make the contributions to create learning environment with sufficient opportunities and more support; enhance shared and collaborative learning; to make new learning connect to prior learning; to facilitate reflective thinking and action and to enhance the teacher-student relationship.

Therefore, the transformative framework of implementing ePortfolio-based assessment refers to student-centred, learning, contribution to active, evaluative and collaborative aspect with learning process, proceeding by integrating prompted reflection opportunities to learning experiences and context to learning goals. Whereas the traditional procedures for implementing ePortfolio assessment were lecturer-steered with less dialogue among learners and unitary with limited methods of assessment. The factors, such as clarified purposes of learning and assessment and feedback, elicited from lecturers indicated the role as facilitator or assessor with more support to students' learning process. In this circumstance, transformation happens not only to students but also lecturers. Lecturer is not merely the information-provider, but also the guide for transformational learning. In the dialogue between teachers and students, the former provides information about learning performance, the expectations and recognition of learning gap. On the other hand, the well-planned formative assessment activities can ensure transformative way of knowing and doing towards their goals.

## **CONCLUSION**

This article established a contextulised transformative framework for implementing ePortfolio-based assessment. This implied theoretical justification of transformative learning theory into the field of ePortfolio assessment practices. Pedagogically, the assessment ePortfolios were structured with specific purposes in each stage to improve learning and teaching.

## **ACKNOWLEDGMENTS**

I would like to thank the lecturers for their support in providing course materials.

## **DECLARATIONS**

- Funding. The author(s) received no financial support for the research, authorship, and/or publication of this article.
- Availability of data and materials. The datasets generated and/or analysed during the current study are not publicly available due to further publications but are available from the corresponding author on reasonable request.
- Competing interests. The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.



- Authors contributions. The literature review, materials and methods, analysis and writing of the research article was solely done by one author. The author has read and agreed to the published version of the manuscript.

## REFERENCES

- Ahn, S., Ames, A. J., & Myers, N. D. (2012). A Review of Meta-Analyses in Education: Methodological Strengths and Weaknesses. *Review of Educational Research*, 82(4), 436–476. <https://doi.org/10.3102/0034654312458162>
- Al-Rashidi, A. H., Asif, M., Vanani, M. G., & Aberash, A. (2022). Learner-oriented assessment (LOA) practice: the comparative study of self-assessment, peer assessment, and teacher assessment on EFL learners' writing complicity, accuracy, and fluency (CAF), speaking CAF, and attitude. *Language Testing in Asia*, 12(1). <https://doi.org/10.1186/s40468-022-00209-x>
- Alexiou, A., & Paraskeva, F. (2020). Being a student in the social media era: exploring educational affordances of an ePortfolio for managing academic performance. *International Journal of Information and Learning Technology*, 37(4), 121–138. <https://doi.org/10.1108/IJILT-12-2019-0120>
- Balaban, I. (2020). An empirical evaluation of E-Portfolio critical success factors. *International Journal of Emerging Technologies in Learning*, 15(4), 37–52. <https://doi.org/10.3991/ijet.v15i04.11757>
- Balaban, I., Ravet, S., & Sobodić, A. (2019). EPortfolio Maturity Framework. *Advances in Intelligent Systems and Computing*, 917, 473–484. [https://doi.org/10.1007/978-3-030-11935-5\\_45](https://doi.org/10.1007/978-3-030-11935-5_45)
- Batson, T. (2011). Situated Learning : A Theoretical Frame to Guide Transformational Change Using Electronic Portfolio Technology. *International Journal of EPortfolio*, 1(1), 107–114. <http://www.theijep.com>
- Bhatta, T. P. (2018). Case Study Research, Philosophical Position and Theory Building: A Methodological Discussion. *Dhaulagiri Journal of Sociology and Anthropology*, 12, 72–79. <https://doi.org/10.3126/dsaj.v12i0.22182>
- Bierema, L. L. (2019). Incorporating Active Learning into Your Educational Repertoire. In *Knowledge Management and Organizational Learning* (Vol. 8). [https://doi.org/10.1007/978-3-030-29872-2\\_2](https://doi.org/10.1007/978-3-030-29872-2_2)
- Boff, B. C., Sauer, L. Z., & Villas-Boas, V. (2022). Conceptual Maps: A Tool for Assessing the Meaningful Learning of Engineering Students in a Pre-Calculus Course. *Acta Scientiae*, 24(7), 78–115. <https://doi.org/10.17648/acta.scientiae.7178>
- Boud, D., & Bearman, M. (2022). The assessment challenge of social and collaborative learning in higher education. *Educational Philosophy and Theory*, August. <https://doi.org/10.1080/00131857.2022.2114346>
- Bourn, D., & Soysal, N. (2021). Transformative learning and pedagogical approaches in education for sustainable development: Are initial teacher education programmes in england and turkey ready for creating agents of change for sustainability? *Sustainability (Switzerland)*, 13(16). <https://doi.org/10.3390/su13168973>
- Carless, D., & Lam, R. (2014). Developing Assessment for Productive Learning in Confucian-Influenced Settings: Potentials and Challenges. *Enabling Power of Assessment*, 1, 167–179. [https://doi.org/10.1007/978-94-007-5902-2\\_11](https://doi.org/10.1007/978-94-007-5902-2_11)
- Christie, M., Carey, M., Robertson, A., & Grainger, P. (2015). Putting transformative learning theory into practice. *Australian Journal of Adult Learning*, 55(1), 9–30.
- Cicchino, A., Haskins, M., Gresham, M., Kelly, K., Slade, C., & Zurhellen, S. (2021). Digital Ethics in ePortfolios: Developing Principles, Strategies, and Scenarios. *International Journal of EPortfolio* [Http://www.Theijep.Com](http://www.Theijep.Com), 11(1), 67–82.

- Cohen, O., & Heinecke, A. (2018). Dialogue Exhibitions: Putting Transformative Learning Theory into Practice. *Curator*, 61(2), 269–283. <https://doi.org/10.1111/cura.12254>
- Cong-Lem, N. (2019). Portfolios as learning and alternative-assessment tools in EFL context: A review. *Call-Ej*, 20(2), 165–180.
- Coric, A., Balaban, I., & Bubas, G. (2011). Case studies of assessment ePortfolios. *2011 14th International Conference on Interactive Collaborative Learning, ICL 2011 - 11th International Conference Virtual University, VU'11, September*, 89–94. <https://doi.org/10.1109/ICL.2011.6059552>
- Cranton, P., & Taylor, E. W. (2013). A theory in progress? *European Journal for Research on the Education and Learning of Adults*, 4(1), 35–47. <https://doi.org/10.3384/rela.2000-7426.rela5000>
- Du Toit-Brits, C. (2018). Towards a transformative and holistic continuing self-directed learning theory. *South African Journal of Higher Education*, 32(4). <https://doi.org/10.20853/32-4-2434>
- Egan, J. P., Cooper-Ioelu, P., Spence, F., & Petersen, M. L. (n.d.). The Curricular and Technological Nexus: Findings From a Study of ePortfolio Implementation. In *International Journal of ePortfolio 2018* (Vol. 8, Issue 2). <http://www.theijep.com>
- Eschenbacher, S. (2020). Transformative learning theory and migration: Having transformative and edifying conversations. *European Journal for Research on the Education and Learning of Adults*, 11(3), 367–381. <https://doi.org/10.3384/rela.2000-7426.ojs1678>
- Fadda, H. Al, Afzaal, M., & Haberman, P. J. (2020). Dynamic Assessment in Education: A Case-Study of Chinese-Speaking EFL Classroom. *Universal Journal of Educational Research*, 8(12), 6967–6977. <https://doi.org/10.13189/ujer.2020.081264>
- Farrell, O., Buckley, K., Donaldson, L., & Farrelly, T. (2021). Editorial: Good bye exams, hello eportfolio. *Irish Journal of Technology Enhanced Learning*, 6(1), 1–6. <https://doi.org/10.22554/ijtel.v6i1.101>
- FDDDE99CAF5063B2CAC5C0B568B65DF3 (1)*. (n.d.).
- Gan, L., & Lam, R. (2020). Understanding university English instructors' assessment training needs in the Chinese context. *Language Testing in Asia*, 10(1). <https://doi.org/10.1186/s40468-020-00109-y>
- Gan, Z., Leung, C., He, J., & Nang, H. (2019). Classroom Assessment Practices and Learning Motivation: A Case Study of Chinese EFL Students. *TESOL Quarterly*, 53(2), 514–529. <https://doi.org/10.1002/tesq.476>
- Glaister, C., Griggs, V., Martinez Gonzalez, O., & Hussain, M. (2023). Informal collaborative learning (ICL)–student perspectives on the role of informal collaborative learning ICL in higher education. *Teaching in Higher Education, Icl*, 1–17. <https://doi.org/10.1080/13562517.2023.2177843>
- Guo, Q., & Xu, Y. (2021). Formative assessment use in university EFL writing instruction: a survey report from China. *Asia Pacific Journal of Education*, 41(2), 221–237. <https://doi.org/10.1080/02188791.2020.1798737>
- Handayani, W., Rozimela, Y., & Thahar, H. E. (2022). *The Framework of E-Portfolio Assessment Model for Translation Study*. November, 415–424.
- Harun, R. N. S. R., Hanif, M. H., & Choo, G. S. (2021). The pedagogical affordances of e-portfolio in learning how to teach: A systematic review. *Studies in English Language and Education*, 8(1), 1–15. <https://doi.org/10.24815/siele.v8i1.17876>
- Hattie, J. (2009). The black box of tertiary assessment: An independent revolution. *Tertiary Assessment & Higher Education Student Outcomes: Policy, Practice & Research*, 259–275. <https://ako.aotearoa.ac.nz/ako-aotearoa/ako-aotearoa/resources/pages/black-box-tertiary-assessment-impending-revolution>

- Hubert, D. (2016). Eportfolios, Assessment, and General Education Transformation. *Peer Review*, 18(3), 25-.
- Kainz, K., Metz, A., & Yazejian, N. (2021). Tools for Evaluating the Implementation of Complex Education Interventions. *American Journal of Evaluation*, 42(3), 399–414. <https://doi.org/10.1177/1098214020958490>
- Kegan, R. (2018). What “form” transforms? In *Contemporary Theories of Learning*. <https://doi.org/10.4324/9781315147277-3>
- Keiler, L. S. (2018). Teachers’ roles and identities in student-centered classrooms. *International Journal of STEM Education*, 5(1). <https://doi.org/10.1186/s40594-018-0131-6>
- Ketabi, S., & Ketabi, S. (2014). Classroom and formative assessment in second/foreign language teaching and learning. *Theory and Practice in Language Studies*, 4(2), 435–440. <https://doi.org/10.4304/tpls.4.2.435-440>
- Koraneekij, P., & Khlaisang, J. (2019). Students’ beliefs regarding the use of e-portfolio to enhance cognitive skills in a Blended Learning Environment. *International Journal of Emerging Technologies in Learning*, 14(2), 85–104. <https://doi.org/10.3991/ijet.v14i02.8288>
- Kuh, G., Gambino, L., Ludvik, M., & O’Donnell, K. (2018). Using ePortfolio to document and deepen the impact of HIPs on learning dispositions. *National Institute for Learning Outcomes Assessment*, 32(February). <http://learningoutcomesassessment>.
- Lam, R. (n.d.). *Assessing Creative Writing Formatively and Summatively with A Case Study in Hong Kong*.
- Lam, R. (2016). Assessment as learning: examining a cycle of teaching, learning, and assessment of writing in the portfolio-based classroom. *Studies in Higher Education*, 41(11), 1900–1917. <https://doi.org/10.1080/03075079.2014.999317>
- Lam, R. (2017). Taking stock of portfolio assessment scholarship: From research to practice. *Assessing Writing*, 31, 84–97. <https://doi.org/10.1016/j.asw.2016.08.003>
- Lam, R. (2018a). *Background of Portfolio Assessment*. 1–11. [https://doi.org/10.1007/978-981-13-1174-1\\_1](https://doi.org/10.1007/978-981-13-1174-1_1)
- Lam, R. (2018b). *Feedback in Writing Portfolio Assessment*. 59–72. [https://doi.org/10.1007/978-981-13-1174-1\\_5](https://doi.org/10.1007/978-981-13-1174-1_5)
- Lam, R. (2018c). *Issues in Portfolio-Based Research and Future Directions*. 109–121. [https://doi.org/10.1007/978-981-13-1174-1\\_8](https://doi.org/10.1007/978-981-13-1174-1_8)
- Lam, R. (2018d). *Processes in Portfolio Development Journey. 2006*, 29–42. [https://doi.org/10.1007/978-981-13-1174-1\\_3](https://doi.org/10.1007/978-981-13-1174-1_3)
- Lam, R. (2018e). *Reflection and Self-assessment in Practice*. 43–57. [https://doi.org/10.1007/978-981-13-1174-1\\_4](https://doi.org/10.1007/978-981-13-1174-1_4)
- Lam, R. (2018f). *Scoring Methods of Writing Portfolio Assessment. Gipps 1994*, 89–107. [https://doi.org/10.1007/978-981-13-1174-1\\_7](https://doi.org/10.1007/978-981-13-1174-1_7)
- Lam, R. (2018g). *Task Design and Application in Portfolio Programme*. 73–88. [https://doi.org/10.1007/978-981-13-1174-1\\_6](https://doi.org/10.1007/978-981-13-1174-1_6)
- Lam, R. (2018h). *Theoretical Basis of Writing Portfolio Assessment*. 13–27. [https://doi.org/10.1007/978-981-13-1174-1\\_2](https://doi.org/10.1007/978-981-13-1174-1_2)
- Lam, R. (2018i). Understanding Assessment as Learning in Writing Classrooms: The Case of Portfolio Assessment Iranian Journal of Language Teaching Research. *Iranian Journal of Language Teaching Research*, 6(3), 19–36. <http://ijltr.urmia.ac.ir>
- Lam, R. (2020a). E-Portfolios: What We Know, What We Don’t, and What We Need to Know. *RELC Journal*. <https://doi.org/10.1177/0033688220974102>

- Lam, R. (2020b). Investigating Assessment as Learning in Second Language Writing: A Qualitative Research Perspective. *International Journal of Qualitative Methods*, 19(July). <https://doi.org/10.1177/1609406920938572>
- Lam, R. (2020c). Why reinvent the wheel? E-portfolios are for learning. *ELT Journal*, 74(4), 488–491. <https://doi.org/10.1093/elt/ccaa049>
- Lam, R. (2020d). Writing portfolio assessment in practice: individual, institutional, and systemic issues. *Pedagogies*, 15(3), 169–182. <https://doi.org/10.1080/1554480X.2019.1696197>
- Lam, R. (2021). Using eportfolios to synergise assessment of, for, as learning in efl writing. *European Journal of Applied Linguistics and TEFL*, 10(1), 101–120.
- Lam, R. (2022). Understanding the Usefulness of E-Portfolios: Linking Artefacts, Reflection, and Validation. *IRAL - International Review of Applied Linguistics in Language Teaching*. <https://doi.org/10.1515/iral-2022-0052>
- Learning, T., & Education, J. H. (2017). *Osaka University Knowledge Archive: OUKA Transformative Learning and Critical Thinking in Japanese Higher*.
- Lewis, L. (2017). ePortfolio as pedagogy: Threshold concepts for curriculum design. *E-Learning and Digital Media*, 14(1–2), 72–85. <https://doi.org/10.1177/2042753017694497>
- Lilly, T. (n.d.). Getting to Eportfolios Through Assessment: A Process Model for Integrating Eportfolio Pedagogical Concepts Through Training for Program Assessment. In *Journal of Higher Education Theory and Practice* (Vol. 21, Issue 7).
- Mahasneh, O. M. K. (2020). A proposed model for the university students' e-portfolio. *Journal of Education and E-Learning Research*, 7(1), 28–33. <https://doi.org/10.20448/journal.509.2020.71.28.33>
- Mathur, M., & Mahapatra, S. (2022). Impact of ePortfolio Assessment as an Instructional Strategy on Students' Academic Speaking Skills: An Experimental Study. *Call-Ej*, 23(3), 1–23.
- McCarthy, A., McNally, C., & Mitchell, K. (2022). E-portfolio practice for student wellbeing in higher education: A scoping review. *ASCILITE Publications*, e22254. <https://doi.org/10.14742/apubs.2022.254>
- McDermott-Dalton, G. (2022). Putting the 'e' in portfolio design: an intervention research project investigating how design students and faculty might jointly reimagine the design portfolio activity. *International Journal of Technology and Design Education*, 32(2), 1207–1225. <https://doi.org/10.1007/s10798-020-09640-8>
- Meijer, H., Hoekstra, R., Brouwer, J., & Strijbos, J. W. (2020). Unfolding collaborative learning assessment literacy: a reflection on current assessment methods in higher education. *Assessment and Evaluation in Higher Education*, 45(8), 1222–1240. <https://doi.org/10.1080/02602938.2020.1729696>
- Mezirow, J. (1997). Transformative Learning: Theory to Practice. *New Directions for Adult and Continuing Education*, 1997(74), 5–12. <https://doi.org/10.1002/ace.7401>
- Moran, C., & Moloney, A. (n.d.). Transformative Learning in a Transformed Learning Environment. *Journal of Transformative Learning*.
- Morgan, D. L., & Nica, A. (2020). Iterative Thematic Inquiry: A New Method for Analyzing Qualitative Data. *International Journal of Qualitative Methods*, 19, 1–11. <https://doi.org/10.1177/1609406920955118>
- Nesbit, T. (2013). The Theory and Practice of Transformative Learning: A Critical Review. In *Canadian Journal of University Continuing Education* (Vol. 25, Issue 1). <https://doi.org/10.21225/d59892>
- Nourdad, N., & Banagozar, M. A. (2022). The effect of e-portfolio assessment on EFL vocabulary learning and retention. *Indonesian Journal of Applied Linguistics*, 12(2), 466–475. <https://doi.org/10.17509/ijal.v12i2.44232>

- Oh, Y. J., Kang, H. Y., Song, Y., & Lindquist, R. (2021). Effects of a transformative learning theory based debriefing in simulation: A randomized trial. *Nurse Education in Practice*, 50(March 2019), 102962. <https://doi.org/10.1016/j.nepr.2020.102962>
- Peacock, S., Murray, S., Scott, A., & Kelly, J. (2008). The Transformative Role of ePortfolios: Feedback in Healthcare Learning. In *International Journal of ePortfolio 2011* (Vol. 1, Issue 1). <http://www.theijep.com>
- Phuong, H. Y., & Van Su Nguyen, T. (2019). Using alternative assessment to improve EFL learners' learning achievement: From theory to practice. In *Using Alternative Assessment to Improve EFL Learners' Learning Achievement: From Theory to Practice* (Issue May 2022).
- Qu, X., & Liu, Y. (2022). Dynamic Assessment of College EFL Learners' Speaking Proficiency: A Case Study. *Chinese Journal of Applied Linguistics*, 45(4), 510–531. <https://doi.org/10.1515/CJAL-2022-0402>
- Rodríguez Aboytes, J. G., & Barth, M. (2020). Transformative learning in the field of sustainability: a systematic literature review (1999-2019). *International Journal of Sustainability in Higher Education*, 21(5), 993–1013. <https://doi.org/10.1108/IJSHE-05-2019-0168>
- Romano, A. (2017). Transformative Learning: A Review of the Assessment Tools. *Journal of Transformative Learning*, 2017, 53–70.
- Sabio, C., Chen, J., Moxley, E. A., Taylor, L., Kuchinski, A. M., & Peters, B. T. (2020). Improving portfolio assessment: Addressing challenges in transition to eportfolio. *Journal of Nursing Education*, 59(12), 705–708. <https://doi.org/10.3928/01484834-20201118-09>
- Salma, N. (2020). Collaborative Learning: An Effective Approach to Promote Language Development. *International Journal of Social Sciences & Educational Studies*, 7(2), 57–61. <https://doi.org/10.23918/ijsses.v7i2p57>
- Scharp, K. M., & Sanders, M. L. (2019). What is a theme? Teaching thematic analysis in qualitative communication research methods. *Communication Teacher*, 33(2), 117–121. <https://doi.org/10.1080/17404622.2018.1536794>
- Stansberry, S. L., & Kymes, A. D. (2007). Transformative Learning Through “Teaching With Technology” Electronic Portfolios. *Journal of Adolescent & Adult Literacy*, 50(6), 488–496. <https://doi.org/10.1598/jaal.50.6.6>
- Sutarno, H., Putro, B. L., Judhie, R. R., & Piantari, E. (2019). E-portfolio assessment model on collaborative problem solving (CPS) learning based on digital learning environment. *Journal of Physics: Conference Series*, 1280(3). <https://doi.org/10.1088/1742-6596/1280/3/032030>
- Taylor, E. W. (n.d.). *Student – Teacher Relationships: The Elephant in the Classroom*. 69–83.
- Taylor, E. W. (1997). Building upon the theoretical debate: A critical review of the empirical studies of Mezirow's transformative learning theory. *Adult Education Quarterly*, 48(1), 34–59. <https://doi.org/10.1177/074171369704800104>
- Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999-2005). *International Journal of Lifelong Education*, 26(2), 173–191. <https://doi.org/10.1080/02601370701219475>
- Taylor, E. W. (2017). Critical Reflection and Transformative Learning: a Critical Review. *PAACE Journal of Lifelong Learning*, 26(1990), 77–95.
- Taylor, P. C., & Taylor, E. (2020). Transformative STEAM education for sustainable development. *Empowering Science and Mathematics for Global Competitiveness*, December 2018, 125–131. <https://doi.org/10.1201/9780429461903-19>

- Torre, E. M. (n.d.). Training University Teachers on the Use of the ePortfolio in Teaching and Assessment. In *International Journal of ePortfolio 2019* (Vol. 9, Issue 2). <http://www.theijep.com>
- Tucker, T., Vernooij, E., LaBore, C., Wolf, A. R., Bo-Linn, C., Baird, R. T., Dancholvichit, N., & Liebenberg, L. (2020). Transforming an engineering design course into an engaging learning experience using eportfolios. *ASEE Annual Conference and Exposition, Conference Proceedings, 2020-June*. <https://doi.org/10.18260/1-2--35401>
- Ubaidah, U., Ibrahim, N., & Siregar, E. (2023). The Epistemology of Transformative Learning: A Systematic Instructional Design Framework Model in Transformative Learning. *International Journal of Multi Discipline Science (IJ-MDS)*, 6(1), 18. <https://doi.org/10.26737/ij-mds.v6i1.3545>
- Van Der Walt, J. L. (2020). Interpretivism-Constructivism as a Research Method in the Humanities and Social Sciences-More to It Than Meets the Eye. *International Journal of Philosophy*, 8(1), 2333–5769. <https://doi.org/10.15640/ijpt.v8n1a5>
- Wang, V. X. (2018). Critical theory and transformative learning. In *Critical Theory and Transformative Learning*. IGI Global. <https://doi.org/10.4018/978-1-5225-6086-9>
- Williams, K., & Brant, S. (2019). Good Words, Good Food, Good Mind: Restoring Indigenous Identities and Ecologies through Transformative Learning. *Journal of Agriculture, Food Systems, and Community Development*, 9, 1–14. <https://doi.org/10.5304/jafscd.2019.09b.010>
- Wu, X., Zhang, L. J., & Liu, Q. (2021). Using Assessment for Learning: Multi-Case Studies of Three Chinese University English as a Foreign Language (EFL) Teachers Engaging Students in Learning and Assessment. *Frontiers in Psychology*, 12(September), 1–15. <https://doi.org/10.3389/fpsyg.2021.725132>
- Yacek, D., & Karcher, M. (2021). *TRANSFORMATIVE EDUCATION: PHILOSOPHICAL, PSYCHOLOGICAL, AND PEDAGOGICAL DIMENSIONS* Introduction and Aims of the Symposium One of the enduring mysteries of the human experience is our capacity to undergo profound changes in the values, modes of thought. 5, 529–537.
- Yacek, D., Rödel, S. S., & Karcher, M. (2020). Transformative Education: Philosophical, Psychological, and Pedagogical Dimensions. *Educational Theory*, 70(5), 529–537. <https://doi.org/10.1111/edth.12442>
- Yacek, D. W. (2021a). The Transformative Classroom: Philosophical Foundations and Practical Applications. In *The Transformative Classroom: Philosophical Foundations and Practical Applications* (Issue February). <https://doi.org/10.4324/9780367853174>
- Yacek, D. W. (2021b). The Transformative Classroom. In *The Transformative Classroom*. <https://doi.org/10.4324/9780367853174>
- Yacek, D. W. (2022). Revisiting The Transformative Classroom: A response to Schroeder-Strong, Merrifield, Morgan, and Dahlbeck. *Theory and Research in Education*, 20(1), 112–118. <https://doi.org/10.1177/14778785221092192>
- Yan, Q., Zhang, L. J., & Cheng, X. (2021). Implementing Classroom-Based Assessment for Young EFL Learners in the Chinese Context: A Case Study. *Asia-Pacific Education Researcher*, 30(6), 541–552. <https://doi.org/10.1007/s40299-021-00602-9>
- Yancey, K. B. (2015). Grading ePortfolios: Tracing Two Approaches, Their Advantages, and Their Disadvantages. *Theory into Practice*, 54(4), 301–308. <https://doi.org/10.1080/00405841.2015.1076693>
- Yancey, K. B., Mcelroy, S. J., Powers, E., Bernhardt, S., & Rice, J. (2004). *Composing, Networks, and Electronic Portfolios: Notes toward a Theory of Assessing Our task is to trace them*. 1–32.

- Zarbafian, A., Abbasian, G. R., Mohseni, A., & Baradaran, A. (2020). Synthesizing transformative education with dynamic assessment in developing EFL learners' productive skills. *Cogent Arts and Humanities*, 7(1). <https://doi.org/10.1080/23311983.2020.1750840>
- Zuba Prokopetz, R. (2022). ePortfolio Pedagogy: Stimulating a Shift in Mindset. *The Open/Technology in Education, Society, and Scholarship Association Journal*, 2(1), 1-19. <https://doi.org/10.18357/otessaj.2022.2.1.27>