The Development and Evaluation of Modules in Purposive Communication Subject for Online Learning

Donalyn C. Dizon
Language Lecturer
Quezon City University
donalyn.dizon@qcu.edu.ph

Abstract: This product-based quantitative research was conducted with its aim to evaluate the modules to assist students' understanding of lesson contents in online learning. The respondents of this study were 50 randomly selected first year students from Entrepreneurship department who used the module during the entire first semester of 2020-2021. The modified Questionnaire Checklist was used in evaluating the developed module in the following criteria: Learning Objectives, Learning Content, Learning Activities, Language Used, and Instructional Design/Resources. Weighted mean was used to describe students' evaluation of the module. The results of the study revealed that the student-participants strongly agreed that the learning objectives are specific and they used behavioral objectives which are attainable. Additionally, the participants agreed that the learning content, activities, language used and the instructional design and resources are helpful in understanding the information. The modules are also found to be suitable to serve as alternative learning materials that assist the learning of students in Purposive Communication class. A replication of this study to validate these modules in assessing students' performance in this subject is recommended to further support the findings of this research.

INTRODUCTION

Many scholars agreed that learning modules have a lot of advantages for students in terms of easy access and greater flexibility (French, 2015). proven as an aid to deliver lessons apart from the traditional discussions that are happening in the classroom. On the part of the students, a module would

develop their independence for learning because every part of it is a lesson plan that is being used by a teacher in the classroom. So, a learning module and a lesson plan would serve the similar purpose – to educate the students. Both give content areas which are organized to present related course materials (Callens, 2015).

The major components are similar in terms of learning objectives, the content (including materials needed, activities, strategies), the forms of assessments, and assignments. These components are evident directly or indirectly which in doubt their validity would be reliable as to the effective delivery of a course item. As both are structured, they present information from the objectives of learning the topic, how to plan activities that would meet the purposes, what learning strategies to use for better understanding to giving assessments, assignments, and other forms of evaluation in order to measure the learners' acquired understanding of the knowledge presented. The teachers conceptualize all the learning outcomes, instructional strategies and different forms of assessments that help in getting the desired outcome from the students. Though the presence of a teacher in a classroom makes learning more effective in order to discuss further the information provided, in most cases repetition of those strategies especially if unknown to students, and the immediate feedback that a teacher can provide in the learning process. However, as in the case of higher learning, college students are expected to have a good background of the many tasks that are implemented in the classroom. That whether with the guidance of a teacher or with independent learning, a learning module and a lesson plan have the outcome to them. Independent learning is expected more than the traditional way. These modular approach of learning gives the students better opportunities to direct their learning while building meaningful experiences about the concepts learned. Educators would act not as "teachers" but as "facilitator" making the students to become lifelong learners. Higher learning requires students to take responsibility for their own learning, to be more self-directed, to make decisions about what they will focus on and how much time they will spend on learning both inside and outside the classroom (The Higher Education Academy, 2014).

Modules have become more important when face-to-face classes have been stopped due to this pandemic. Learning outcomes are still attained, knowledge should still be honed, and academic programs will continue despite the directive to discontinue traditional classroom setup. Modular instructions provide a more open model than traditional learning structures, encouraging students to arrange and develop their own degrees (French, 2015). While these modules are accessible online, teachers and students have the easier accessibility of obtaining the content to meet the desired learning outcome.

LITERATURE REVIEW

Online Learning

During the first term of 2020, the threat of COVID-19 and its emergence really affected every aspect of our life including the education sector. The challenge brought by this pandemic has made school administrations to think of alternative solutions to the traditional face-to-face classes. The idea of blended learning, remote learning or online learning has been considered as solution to the problem. Blended learning approach would be a combination of online learning and traditional setup, however, the fear of infecting and getting infected once there is a personal contact with people. To adopt this style of classroom setup was impossible because community quarantine was ordered so as not to transmit the virus and because of the increasing number of infections. This prompted the Commission on Higher Education to suspend classes to issue a memorandum on the implementation of flexible learning. The document orders all Higher Education Institutions (HEIs) to implement flexible learning and teaching options, approaches, strategies, systems, pedagogies, modalities in the higher education programs, both for undergraduate and graduate programs, including those under permit status, by all private and public HEIs (Commission on Higher Education, 2020). The mandate applies to all on-going students in the HEIs

including those incoming first year. Quezon City University responded to the directive which would begin in the following first term of academic year 2020-2021.

The internet has provided various ways to help people in all aspects of their life. With the current problem brought by the pandemic, the education system would benefit in terms of conducting classes delivered online. Students can connect with the teachers and this is made possible with online platforms like virtual classrooms, text chat, voice chat, and video chat (Rosell, 2020). Communication and interaction between the teachers and the students, thus, lessons are still delivered to the clienteles. Interactive platforms can be used like discussion boards where students are prompted to tackle ethical questions and case studies, talk through ideas for assignments, and share resources (Wilson, 2017). With the help of technologies such as email, social networks, chats, and video chat applications, communication between instructor and students is more timely, efficient, productive, and agreeable for both parties. A research conducted found that Students still prefer classroom classes over online classes due to many problems they face when taking online classes, such as lack of motivation, understanding of the material, decrease in communication levels between the students and their instructors and their feeling of isolation caused by online classes (Alawamleh, Al-Twait and Al-Saht, 2020). However, it was noted in a research that after evaluating e-mail communication with students and examining student success rates and teaching evaluation data, there is a connection between e-mail tone and student performance in an online class (Dickinson, n.d.). Also, communication and engagement are intertwined to help the learners and they are evident in both traditional and online classroom format. In online class, online instructors can also interact not only with the learner but parents, and other stakeholders to develop strategies to support learner engagement through those online platforms especially for the struggling students. They might differ in some aspects, but the willingness of both parties may solve them and it might help in the welfare of the students. Therefore, students and parents could also try to reach out with teachers and other stakeholders in order to bridge knowledge gaps (Pavlovic, 2020).

Higher education entails rigorous tasks and a lot of responsibilities to undertake. Students in the tertiary level may be surprised (especially those who have just graduated from senior high school) at how much work they are required to do "on their own" inside and also outside the classroom. Many would complain about the tasks assigned to them. However, with the current situation and in order to surpass this remote learning, learners need to direct their own learning through their hard work, self-discipline, and independence. Comfortable work conditions and increased concentration can be helpful for students who are uncomfortable or distracted in a classroom (Guella, 2018). He also added that virtual learning would allow the students to participate in programs that are hard for them to access geographically and economically. Additionally, independence and interdependence could both be developed in an online class. Cooperation and collaborative works are possible through the built-in features of those learning platforms (Peshkam, 2020). With the advancement of technology, everyone seems to take the opportunity of the many benefits it offers to us with just one click of a button. Modern learning theory supports the shift away from antiquated, rote learning models toward personalized learning opportunities in which instructional designs and academic-support strategies are tailored to each individual student's needs rather than uniform lesson planning (St. Mary's University, 2021). On one hand, students can choose from various multimedia presentation with some animation to present their ideas. On the other hand, teachers can also select teaching resources from the online media such as audio or video clips, and incorporating online games that makes the lesson more engaging and fun. All these benefits of online learning allow the students to successfully acquire knowledge even in a remote learning.

Online Modules

The restructuring of learning traditional way to online paved its way to the usefulness of modules. A research conducted by Padmapriya (2015) showed that those students treated with modular approach achieved higher mean scores than those students taught through activity-oriented method. The

study reveals the effectiveness of self-instructional module in the academic achievement among secondary students. Without the presence of a teacher, students learn at their own pace, and at their own comfort. The step-by-step information of executing the lesson is evident which is more likely a good prototype of a teacher's plan. The learning outcomes, the strategies and the assessments provided are easily crafted so teachers expect a god delivery of the content. Online learning modules that were evaluated on quality, usability, and potential effectiveness as a teaching tool met the criteria for being quality, and usable online learning modules (Goode, 2003). A study also revealed that there is robust evidence to suggest online learning is generally at least as effective as the traditional format (Nguyen, 2015). In a study which compared the effectiveness of interactive online modules with the students' exam scores, it was concluded that the interactive modules were a significantly beneficial study resource for the students during their program. In a research conducted to find out whether modular teaching is more effective than traditional teaching, the result scores were in favor of usage of modular approach (Sadiq,2014). Furthermore, a study conducted to see the effectiveness of online modules to first year medical students, the online learning modules have proven to be an effective self-study tool for the participants (Rothe, 2014). Whatever instructional tools given to students are made available for they can be accessible anytime online. They can be even stored in their files for future references, and they can even manipulate these materials on their own time and at their own pace. This provides the students an autonomy in their own learning. One most important factor to consider in choosing online materials is usability. According to Andriotis (2016), there are 4 key elements of a successfully designed self-paced course:

1. Easy-to-find materials and modules, with clear links between different parts.

2. A clearly signposted completion time – and no one part should be too long

3. Tasks that are clearly defined, with good access to advice if trainees do get stuck.

With the introduction of online learning to all colleges and universities here in the Philippines, and with the comforts and accessibility it offers, school administrators would opt to include it as alternate to traditional learning.

PURPOSES OF THE STUDY

This study is aimed at producing learning modules that will address the absence of face-to-face learning in an attempt to assist students in their learning and to evaluate their suitability as alternative learning materials. The objectives of this study are:

a) To develop learning modules that could be used in online learning for Purposive Communication class.

b) To evaluate the suitability of these learning modules as alternative learning material for online learning.

This study is focused only on learning problems among the students in using the modules for online learning. The students were limited to those pursuing Bachelor of Science in Entrepreneurship at Quezon City University during the first semester of academic year 2020-2021. Contents presented in the modules only concentrate English 1 topics with focus on business communication.

SIGNIFICANCE OF THE STUDY

The importance of the study is a result of creating an alternative learning method that depends on the stimulation of the student thinking for self-directed learning.

Therefore, the researcher hopes to make this study useful in achieving the following:

a) Assist the students to cope with their remote learning.

b) Contribute in improving the online teaching of English subject using modules.

c) Developing learning modules that serve as alternate to traditional learning.

RESEARCH METHOD

This research is a product-based quantitative research which includes the development of a product (e-module) as well as the collection and analysis of quantitative data by means of research instrumentation.

This research used the development model ADDIE (analysis, design, development, implementation, and evaluation). The scheme for the stages of the ADDIE model research is shown in Figure 1.

Figure 1. Scheme of the ADDIE Model

Activities at the analysis stage are analyzing and clarifying learning situations so that instructional objectives, student characteristics, and timeline are set. At the design stage, the developers design learning methods that are most effective and apply strategies to achieve the objectives. The developers prepare the framework to be used. Furthermore, at the development stage, the developers create and assemble the content that are created in the design phase. Reviewing and revising are also implemented

based on the feedback of professional experts. At the implementation stage, the developers install the modules for online learning situations. The developers check also that all linkages and resources are in place and functional. In the last stage of evaluation, the researcher determines the impact of the instruction. The researcher assesses also if students learned and if there are needs to be changed.

In the analysis phase there are three components, namely, analysis of the curriculum, timeline, and characteristics of students. After analysis, the results obtained will be used as a basis in developing the modules. At the design stage, it begins with the preparation of the module framework and preparing the initial template of the modules. After the initial template is formed, the next process is entering at the development stage. In the development stage the module content is set and feedbacking was given. Then the next stage is the implementation stage. In the implementation phase a validation process is carried out from the framework that has been developed. Then the evaluation phase is to improve the module content in accordance with the results of the validation in the previous stage. The respondents consisted of First year students in Entrepreneurship department who were enrolled in English class for the first semester of academic year 2020-2021. Since it was an online class, the researcher randomly picked 10 respondents from each of the five classes who would join in this research. Thus, there were 50 students chosen as participants of the study. The objects of this study are the 11 modules which were randomly distributed to the students where each student receives a module.

The research instrument for data collection in this study was a modified questionnaire which was distributed together with the modules for evaluation by the respondents. The questionnaire served as an instrument to obtain feedback from these respondents regarding various aspects of the module. Before the semester ended, the respondents were given a questionnaire to assess the effectiveness of the content and instructional design of the modules. The questionnaire was divided into five sections. These five sections were aimed at obtaining the effectiveness of these modules in terms of the learning objectives, learning content, learning activities, language used, and the instructional design. The Likert

scale was used as options to identify those sections. These scores were recorded and computed to determine the effectiveness of the modules. Weighted mean and standard deviation were used to describe students' evaluation of the modules.

RESULTS AND DISCUSSIONS

The learning modules were evaluated by the developers prior to the actual study. The developers consisted those who were teaching English subject and other communication classes. Review and revision of the modules were implemented in order to obtain validity of the modules. Besides the verification of the modules, results showed that the questionnaire was reliable since the Alpha-Cronbach score produced was over 0.7 for each section of the questionnaire. The actual study was conducted in the first semester of academic year 2020-2021.

For the five sections, the respondents were given numerical options from 1 to 5 on their perception towards the various aspects of the modules presented to them. They had to circle a number from 1 to 5 to indicate their preference, with 1 being the "strongly disagree" and 5 being the "strongly agree" options. In the analysis, the number of respondents in each group who had circled 1 and 2 were grouped under the category "disagree" while those who had circled 4 and 5 were grouped under the category "agree". Those who circled 3 were categorized as "neutral".

The results regarding learning objectives in Section A are presented in Table 1. The findings indicated that majority of the respondents strongly agreed that the objectives were behavioral, they are stated clearly, specific, measurable, attainable and take into account the needs of the students. Other students agreed that the subject matters are related to real world issues with a weighted mean score of 4.46. Overall, the participants rated the module in terms of learning objectives as strongly agreeable with a total weighted mean of 4.53 and standard deviation of 4.05.

Table 1: Mean and standard deviation of students' evaluation of module in terms of learning objectives.

A. LEARNING OBJECTIVES

Section	STATEMENT	Mean	v.i
A1	The objectives are stated in behavioral terms.	4.52	SA
A2	The objectives are stated clearly.	4.58	SA
A3	The objectives are specific, measurable, and attainable.	4.58	SA
A4	The relevance of the subject matter to real world issues is made apparent.	4.46	A
A5	The objectives take into account the needs of the students.	4.52	SA
	Total	4.532	SA

The learning content (Section B) included the contents, ideas and concepts of the course. As shown in Table 2, the respondents strongly agree that the contents made them to reflect and matched the learning objectives, and the ideas, concepts presented in the modules were well-presented. Furthermore, they agreed that the learning competencies were included in the module and supplementary activities enhanced their understanding of the content. In all, the effectivity of the learning contents is agreeable to the respondents with a weighted mean of 4.48 and a standard deviation of 3.97. One positive comment given by a respondent was "… it is very effective especially when we have things that are not very clear, we can go back and study again."

Table 2: Mean and standard deviation of students' evaluation of module in terms of learning content.

B. LEARNING CONTENT

Section	STATEMENT	Mean	v.i

B1	Expected learning competencies are contained in the module.	4.38	A
B2	The module helps the students to reflect.	4.6	SA
B3	The module content matches the module objectives.	4.5	SA
B4	The ideas, concepts and points presented are well-explained.	4.52	SA
B5	Supplementary activities enhance student's understanding of the content.	4.4	A
	Total	4.4	A

The learning activities (Section C) included the assessments and other materials to gauge the students' understanding of the topic. Table 2 shows that the overall evaluation of the participants about the modules in terms of learning activities is agreeable. They agreed that the assessments and methods both received agreeable comments, while adequacy of materials and the number and length are also agreeable. The participants agreed that the assessments in the module contribute to their learning. In conclusion, the student-respondents rated the learning activity sections with a weighted mean average of 4.28 and the average standard deviation is 3.79. One positive feedback of a student was "*this module is functional and effective; it has additional materials that we can use to study the subject*".

Although, the ratings of the students in these five statements under this section are all agreeable, the researcher needed to consider the suggestion of one of the respondents who wrote that "*add a little more examples to fully understand the topic*", also one comment said " *adding more information in the assessment part to elaborate it for easy understanding*", and another one suggested, "*those links should be put in one file because when a link is opened, it opens another link*".

Table 3: Mean and standard deviation of students' evaluation of module in terms of learning activities.

C. LEARNING ACTIVITIES

Section	STATEMENT	Mean	v.i
C1	The assessments help achieve module outcomes.	4.14	A
C2	The assessment methods reflect the important aspects of the module.	4.42	A

C3	The module materials are adequate for learning the subject matter.	4.2	A
C4	The number and length of assessments is reasonable.	4.34	A
C5	The assessments contribute to students' learning.	4.32	A
	Total	4.2	A

In this section, the language used in writing the topic, the instructions, the language and vocabulary were rated by the respondents. The students strongly agree that the modules are free from spelling errors and good language is used as shown in Table 3. Additionally, they agreed that the vocabulary, the instructions and the directions are clear for the students to follow. In total, the weighted mean is 4.38 and the standard deviation is 3.89 in terms of the language used. One positive comment that was given by the participant was "very *specific and the instructions were easy to understand*" however, there was a comment in one module that said "*the words should be clearer so students can understand them easily*" which the researcher had to consider.

Table 4: Mean and standard deviation of students' evaluation of module in terms of language used.

D. LANGUAGE USED

Section	STATEMENT	Mean	v.i
D1	Contents are free of spelling errors.	4.54	SA
D2	The vocabulary used is suitable to the comprehension level of students.	4.46	A
D3	Instructions to students are clear and easy to follow.	4.4	A
D4	Good language is used in content presentation	4.64	SA
D5	The module is accompanied by clear and specific directions for the students use.	4.38	A
	Total	4.4	A

This section (Section E) presents the effectiveness of the design and other resources used in the modules. As shown in Table 5, the participants agree that the modules use learning resources and links which are comprehensible, clearly articulated, current and active, as well as easy to find navigate and not too long. One comment said that "The contents were well-organized which makes the modules easier to understand and navigate." The students also agree that the design is effective and the modules use

interactive techniques to maximize engagement and "the links can be used by the students to understand further the lessons". They agree also that the modules can be used anywhere and on any device. A participant gave this comment "the file is not large that makes it easy to download. This is helpful for those whose gadgets have low storage capacity." In conclusion, the student-participants rated the use of instructional design and resources of the modules agreeable, however, the researcher need to consider the following comments for improvement of the modules:

- Use images/illustrations

- Links in references (incorrect/some are not accessible)

- Use bulleted format to present important information of the modules

Table 5: Mean and standard deviation of students' evaluation of module in terms of instructional design.

E. INSTRUCTIONAL DESIGN/RESOURCES

Section	STATEMENT	Mean	v.i.
E1	Design layout is effective (e.g., text and images do not overlap, font is readable, effective balance of white space and content, images, or text).	3.96	A
E2	The modules use a variety of interactive techniques (simulations, videos, assessments, etc) to maximize engagement.	4.02	A
E3	Learning resources and links are comprehensive, clearly articulated, and current/active,	4.08	A
E4	Easy to find, easy to navigate, not too long and sufficiently challenging without being frustratingly difficult.	4.08	A
E5	It can be available anytime, anywhere and on any device, desktop to smartphone.	3.84	A
	Total	3.996	A

Overall, the results of the study showed that the perception of the students toward using modules in their learning was positive. The students strongly agree that the learning objectives and the content were attained because the contents are clear and they use behavioral objectives. The participants agreed also that the learning activities help them in learning the topics and they also agreed that the use of language

made them understand well the topic although the researcher needed to consider some suggestions of students to give more examples or information, and clearer words should be used for better understanding of the instructions. The instructional design and resources are agreeable for the student-participants. These findings have been consistent with another study which maintains that the parts of the module complete each other in order to provide knowledge and skills towards proficiency in a field (Cihan and Kurban, 2009 as cited in Hill,et.al. 2015) who found out that carefully designed online resources used as pre-instruction can have an impact in students' conceptual understanding and representational fluency, as well as make them more aware of their learning process.

CONCLUSION

Based on the findings, the developed instructional modules for online learning in Purposive communication course are acceptable based on the survey and other comments given by the students. The 11 instructional modules, subjected to evaluation, are consistent in receiving agreeable ratings. Although there were suggestions with regard to clarity of the words used, more information and examples, correct use of links, bulleted format and using images or illustration, the researcher considers these comments important in improving the modules in the evaluation stage. Since student ratings are the most, if not the only, influential measure of teaching effectiveness, active participation by and meaningful input from students can be critical in the success of such teaching evaluation systems (Chen & Hoshower, 2010).

With all this significant information that were found in the study, the modules were found to be suitable to serve as alternative learning material that would assist the online learning of students in Purposive Communication class. The respondents felt that the modules would be suitable in assisting students to learn the subject. However, improvements still had to be made to the modules to make them better. These included the words used, adding some images, and checking the links. Overall, the results

of the study showed that the modules could be used to attain the objectives of the lesson contents. The

modules were successfully produced with all the features intended and the evaluation of the e-module

was carried out successfully.

RECOMMENDATIONS

Part of online learning is the production and development of learning materials for students. It is with this

idea that the researcher tries to recommends the following for future studies: 1) these developed modules

can be used for online learning of English 1 classes; 2) this study may be replicated by conducting a

validation of the effectiveness of modules in terms of students' performance in the English class; 3)

teachers in other departments may conduct the same study to develop and evaluate their learning

modules; and 4) a study on the attitudes of students in using modular learning online may be conducted.

REFERENCES

Alawamleh, M., Al-Twait, M., & Al-Saht, G.(2020). *The effect of online learning on communication between instructors and students during Covid-19 pandemic*. Retrieved from https://www.uwinnipeg.ca/remote-hub/docs/effect-online-learning-on-communication-instructor-student.pdf 2020

Andriotis, N. (2016). *How To Implement Interactive Self-Paced Online Courses In A Corporate Environment.* Retrieved from https://www.efrontlearning.com/blog/2017/04/interactive-self-paced-online-courses-corporate-learning.html

Callens, M.(2015). *Quick Guide to Organizing Your Blackboard Page*. Retrieved from https://www.ndsu.edu/fileadmin/ahss/Teaching_and_Learning_Images_and_Docs/Quick_Guide_to_Organizing_Your_Blackboard_Page.pdf

Chen, Y. & Hoshower, L. (2010). *Student Evaluation of Teaching Effectiveness: An assessment of student perception and motivation* . Retrieved from https://www.tandfonline.com/doi/abs/10.1080/02602930301683

Cihan, S & Kurban, U.(2009). *Evaluation of the Practices of Modular Educational System: A Field Study in Anatolian Hotel and Tourism Vocational High Schools.* Retrieved from https://www.isarder.org/isardercom/cilt1_no2/a111.pdf

Commission on Higher Education. (2020). *Guidelines on the Implementation of Flexible Learning*.

Retrieved from
https://ched.gov.ph/wp-content/uploads/CMO-No.-4-s.-2020-Guidelines-on-the-
Implementation-of-Flexible-Learning.pdf

Dickinson, A. (n.d.). *Communicating with the Online Student: The Impact of E-mail tone on Student Performance and Teacher Evaluations*. Retrieved from
https://files.eric.ed.gov/fulltext/EJ1150571.pdf

French, S.(2015). *The Benefits and Challenges of Modular Higher Education Curricula.* Retrieved from
https://melbourne-cshe.unimelb.edu.au/resources/categories/occasional-papers/the-benefits-
and-challenges-of-modular-higher-education-curricula

Goode, C. (2003). *Evaluating the Quality, Usability , Usability, and P , and Potential Effectiveness of Online Learning Modules: A Case Study of Teaching with Technology Grant Recipients at the University of Tennessee, Knoxville.* Retrieved from Evaluating the Quality, Usability, and Potential Effectiveness of Online Learning Modules: A Case Study of Teaching with Technology Grant Recipients at the University of Tennessee, Knoxville.

Guella, T.(2018).*The Benefits and Flexibility of Learning Online.* Retrieved from
https://www.centenaryuniversity.edu/student-life/cyclone-corner/the-benefits-and-flexibility-
of-learning-online/

Kurt, S.(2018). *ADDIE Model: Instructional Design*. Retrieved from
https://educationaltechnology.net/the-addie-model-instructional-design/

Nguyen, T. (2015). *The Effectiveness of Online Learning: Beyond No Significant Difference and Future Horizons*. Retrieved from https://jolt.merlot.org/Vol11no2/Nguyen_0615.pdf

Padmapriya, P.(2015). *Effectiveness of Self Learning Modules on Achievement in Biology Among Secondary School Students.* Retrieved from http://ijepr.org/panels/admin/papers/179ij12.pdf

Pavlovic, D.(2020). *Tips for Communicating Online for Students and Teachers.* Retrieved from
https://www.hp.com/us-en/shop/tech-takes/tips-communicating-online-students-teachers

Peshkam, A. (2020*). 8 Cooperative Learning Practices to Enrich Your Online or Hybrid Classroom*. Retrieved from https://hbsp.harvard.edu/inspiring-minds/cooperative-learning-
practices

Rosell, C. (n,d.) *Online Learning Platforms Improve the Education Experience.* Retrieved from
https://www.cae.net/online-learning-platforms-improve-education-experience/

Rothe, C.J. (2014) *Effectiveness of online learning modules in gastrointestinal polyps pathology*
Reetrieved from https://www.sciencedirect.com/science/article/abs/pii/S003130251630962X

Sadiq, S. (2014). *Effectiveness of Modular Approach in Teaching at University Level.*
Retrieved from https://core.ac.uk/download/pdf/234635879.pdf

The Higher Education Academy (n.d.). *Independent learning*. Retrieved from
https://www.heacademy.ac.uk/sites/default/files/resources/independent_learning.pdf

Torrefranca, E.(2017). *Development and Validation of Instructional Modules on Rational Expressions and Variations*. Retrieved from
https://po.pnuresearchportal.org/ejournal/index.php/normallights/article/viewFile/375/235

IJSER