COMMON PROBLEMS OF TEACHERS AND LEARNERS IN THE IMPLEMENTATION OF BLENDED INSTRUCTION: BASIS FOR SCHOOL INNOVATION PROGRAM

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COMMON PROBLEMS OF TEACHERS AND LEARNERS IN THE IMPLEMENTATION OF BLENDED INSTRUCTION: BASIS FOR SCHOOL INNOVATION PROGRAM

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ABSTRACT

This study aimed to find out the common problems encountered by teachers and learners in the implementation of blended learning among schools in the East Tacurong Cluster, City Schools Division of Tacurong. The respondents were the teachers and learners in the district. A descriptive method of investigation using survey questionnaires was used to gather data from the respondents of the study weighted mean was used in treating data. The conclusion of the study revealed that common problems of teachers in the implementation of blended learning yielded a grand mean of 3.31 and described as Sometimes or moderate level, and common problems of learners in the implementation of blended learning yielded a grand mean of 3.64 and described as Oftentimes or high level. It is recommended that internet connectivity must be given a special attention; online setup must be done by experts to eliminate or minimize technical problems; teachers must be fully trained in terms of online instructional materials for them to deliver competencies effectively; and the findings of the study shall be the basis for the future research which will include other schools with wider scopes.

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The Researchers

I. CONTEXT AND RATIONALE

Blended Learning

According to Williams, Bland, and Christie (2008), blended learning is defined as a combination of traditional face-to-face learning and distributed learning, the latter of which is defined as `faculties, students, and content that can be placed in diverse locations. It is an educational model that makes (p. 43). A key feature of distributed learning is that the learning environment is designed with the fact that students have different learning needs and preferences. Students learn in an interactive and collaborative environment, at their own pace, on their own time (Graham, 2006; Saltzberg & Polyson, 1995) Yen and Lee (2011) argue that: It is likely to emerge as the dominant education model in the future." (p. 138).

A large body of literature has evaluated blended learning from the perspective of academics or developers. Banks (2001) reports on assessing the use of blended learning in an MSc module, Rural Sustainability, at Cardiff University. It identifies the positives and negatives of Virtual Learning Environments (VLE, synonymous with LMS) and issues that are important to those considering using these environments as part of a key module learn. According to her, the positive aspects of VLEs include added learning value, increased engagement, increased enjoyment of learning, the ability to facilitate effective teamwork, and the provision of a friendly and standardized interface for students. all lessons. The negative aspects identified by Banks are fear of technology and require time from instructors as well as skepticism from students. Wall and Ahmed (2008) propose a blended learning framework for higher education institutions facing challenges in developing and implementing continuing professional education in the construction industry. The framework can

be used by continuing education providers to determine the most appropriate combination of media for a blended learning intervention, considering the characteristics of the learners and instruction, desired instructional goals and strategies, the nature of the learning environment, and availability of resources.

Research has also been published (Baldwin-Evans, 2006; Harris, Connolly and Feeney, 2009; Mitchell and Honore, 2007; Stacey and Gerbic, 2008) on the key factors for successful blended learning implementation Be discussed. Among these key factors are the availability of economic resources, support from senior management, and access to personnel with the necessary competencies and technological skills. Garrison and Vaughan (2008) describe best practices for implementing blended learning in higher education. They emphasize the need for a seamless connection between the in-person and online components to ensure a truly blended learning environment. Additionally, they advocate categorizing different pedagogical approaches accordingly lectures, problem-based learning methods, just-in-time teaching methods, collaborative learning methods, and other methods on a combined basis.

There is a lot of evidence that blended learning can have a positive impact on student achievement. For example, research has shown that blended learning can promote a decrease in student concentration and facilitate an increase in student exam pass rates (López-Pérez, PérezLópez, & Rodríguez-Ariza , 2011). However, other studies indicate that there is a need to better understand how the associative distribution affects student learning. Ginns and Ellis (2007) explored the relationships between students' perceptions of the online learning environment, their learning methods, and their learning outcomes. They found that students had

significant differences in their perceptions, leading to differences in learning approaches and grades - students had positive perceptions of the online learning environment. tend to score higher and vice versa. Research by O'Toole and Absalom (2003) explored whether providing course materials on a university intranet has a positive effect on students' accomplishment of expected outcomes. Their investigation found that providing documents in electronic format was of limited value; in fact, it can have a negative effect on student learning outcomes due to misplaced trust in the media through which the material is disseminated.

There has been much discussion of the term "associative learning" in recent years, but there is still no single unified definition (Bliuc, Goodyear & Ellis, 2007; Green et al., 2006; Jonas & Ellis, 2007). Burns, 2010; Marsh, Pountney and Prigg, 2008; Sharpe, Benfield, Roberts and Francis, 2006; Stacey and Gerbic, 2008). However, there is one common theme covered in the document - the recognition of some combination of virtual and physical environments. This common theme is evident when Graham (2006) describes associative learning as the convergence of face-to-face environments, characterized by synchronous, human-based interactions with environments. information and communication technology (ICT).), Asynchronous, text-based. and involves people acting independently. It continues as Mason and Rennie (2006) expand this definition to include “another combination of instructional technologies, locations, or approaches” (p. 12). It continues as Garrison and Vaughan (2008) define blended learning as “a thoughtful combination of face-to-face and online learning experiences” (p. 5) and emphasize the need to reflect on traditional as well as rethinking learning and teaching in this new terrain. It persisted when Littlejohn and Pegler (2007) found that associative learning was a useful

approach because it shifted the focus of design learning by shifting the focus from just looking at the environment face-to-face and straight to problem design, such as considering the process and the synergy of the combination of online and in-person environments.

Sloman (2007) argues that associative learning should not simply be viewed from a distributive and technological perspective. According to him: If we want the term associative learning to have longevity ... we must encompass its use beyond technology. It should be as varied a learning method as a training method. We need to better understand what motivates learners, what support they need, and how these supportive interventions can work in practice. Only with this understanding can we get the right "mixture". (p.318)

Thus, associative learning is itself a blend. It is a combination of pedagogical approaches that combine the effectiveness and socialization of the classroom with the technological innovations of online learning (Dziuban, Hartman, Juge, Moskal, & Sorg, 2006). This combination contains a paradigm shift in which the focus shifts from teaching to learning (Nunan, George and McCausland, 2000). To enhance this change, a hybrid course should also increase interaction between the instructor and the student, as well as between the students. It needs to further strengthen the mechanism that integrates fusion and formative feedback to stimulate students' learning experience (Yen & Lee, 2011). Blended learning is therefore a fundamental overhaul of the pedagogical model with a shift from lecture-centered teaching to student-centered teaching, where students become active learners. and communicate.

Blended learning can also be contemplated as good practice. In other words, using blended learning as a delivery method can highlight two of the seven principles of Chickering and Gamson (1987), which are “encourage students to engage in active learning.” and “encourage student-faculty contact”. Using blended learning can also suggest another good practice, which is to give feedback quickly, as blended learning often involves online interactions, which can make things easier. information feedback event. However, the timeliness of feedback depends on how often instructors and students use the relevant online platform.

Advantages of Blended Learning

Blended learning helps both students and institutions. It facilitates improved learning outcomes, flexibility in access, sense of community, efficient use of resources and student satisfaction.

Cost and resource efficiency are also considered an advantage of blended learning (Graham, 2006; Twigg, 2003b; Vaughan, 2007). Costs for organizations are saved because developed documents can be put online and reused over a long period of time. In addition, the size of the group can be increased and the number of classes reduced. Using blended learning can reduce the contact time of staff and students in the classroom and thus save costs for staff. Although cost savings should clearly be considered a valid benefit of blended learning, many authors writing on the topic have argued that cost savings should not be considered the primary goal of adoption. blended learning methods, and improving learning outcomes should always be the main rationale for applying blended learning implemented (Mitchell & Honore, 2007; Trasler, 2002).

Blended learning also promotes student contentment. Blended learning allows students to become more motivated and engaged in the learning process, thereby improving their engagement and persistence (Donnelly, 2010; Sharpe et al., 2006; Wang, Shen, Novak, & Pan, 2009 Woltering, Herrler, Spitzer, & Spreckelsen, 2009). Both staff and students report that the online components of blended learning encourage the development of critical thinking skills. Student satisfaction was also reported to be higher in the combined courses than in face-to-face courses alone (Dziuban et al., 2006; Owston et al., 2008; Twigg, 2003a). So blended learning benefits both students and institutions.

Problems Encountered in Blended Learning

Using blended learning can pose many challenges for students and universities. Unrealistic expectations and feelings of isolation present challenges for students, while universities struggle with timing and support issues. Students and institutions face challenges posed by technological problems.

Vaughan (2007) cites studies presenting that learners enrolled in hybrid courses can sometimes have impractical expectations. Students in these studies attributed fewer classes to less work, had poor time management skills, and had problems accepting responsibility for their personal learning. Students in these courses also reported feeling isolated due to reduced opportunities for social interaction in a face-to-face classroom setting (Smyth et al., 2012).

Struggling with more complex technologies is another challenge for associative learning implementations. This is especially the case when students have to rely on slow internet connections (e.g. dial-up) (Smyth et al., 2012). Poor Internet connection has been reported to limit students' ability to participate in online discussions (King,

2002) and cause significant frustration (Hara, 2000; Hara and Kling, 1999; Welker and Berardino, 2005-2006), this can cause a negative impact on learning.

Another technology-related challenge is the pervasive accessibility that technology provides. While the flexibility for online and distance learning offered by blended learning is seen as beneficial, ubiquitous access can also be intrusive on learners' personal lives. For some, the online component means more time spent learning and less personal attention. This can leave participants feeling overwhelmed and fatigued (Smyth et al., 2012).

Enhancing the student learning experience is a top priority for the Department of Education. In this educational scenario, we are currently facing a COVID-19 pandemic that is scaring people and creating anomalies, especially in the education of our students.

Blended learning is the answer to continuing the quality learning process of our Filipino learners. Our DepED identifies four modes of learning such as face-to-face, modular, online and television and radio instruction. As we have noticed, among the methods mentioned, face-to-face is not applicable in the current situation due to the pandemic, although it is the most effective learning method. However, the door to quality education cannot be closed even without face-to-face instruction. There is always a way to brighter learning and blended learning is one of the solutions.

Blended learning is a combination of any learning modality and can be seen as the key to achieving optimal learning outcomes during a pandemic. Implementation is quite difficult and more expensive on the part of schools and learners. The amount of materials required to manufacture the modules and the

stability of the internet connection between learners and teachers are considered. This uncertainty forces our educators to come up with solutions despite the many complexities. The printing and distribution of sets is a challenge today as well as the response of our parents in bringing the sets to school.

In light of this new normal education, the research initiators attempted to explore common problems faced by teachers and learners in implementing blended learning in East Tacurong Cluster, City Schools Division of Tacurong.

II. INNOVATION, INTERVENTION, AND STRATEGY

Innovation	Intervention	Strategy
Formulate project and program designs in order to address the needs for the common problems of teachers and learners in the implementation of blended learning.	Implement the programs by providing necessary training by inviting resource person in line with the delivery of distance learning that will capacitate both teachers and learners in the implementation of blended learning.	Find a possible partner including NGOs, private organizations, and other individuals to support the program. Memorandum of Agreement will be executed for the sustainability purposes.

III. ACTION RESEARCH QUESTIONS

1. What are the common problems encountered by teachers in the implementation of blended learning?
2. What are the common problems arising from our learners in executing blended learning?
3. What are the possible alternatives to be imposed for the improvement or enhancement of blended learning among schools in the East Tacurong Cluster?

Scope and Limitations

This study focused on the common problems of teachers and learners in the implementation of blended learning in the East Tacurong Cluster. This study was performed during the school year 2021-2022.

IV. ACTION RESEARCH METHODS

Sampling

The researchers used the purposive sampling in determining the number of respondents in the East Tacurong Cluster. The respondents of the study were responsible for answering the given survey questionnaire.

Data Collection

The researchers secured a letter of permission from the Cluster Head to allow the researchers to perform the study cluster wide. Another letter of permission was delivered to the school principals of East Tacurong Cluster requesting them to conduct a survey and to gather the required data from the respondents.

After the approval of the letter, the questionnaires were processed personally by the researchers to the respondents. All the data gathered from the participants was organized, tallied, tabulated, and presented in a series of tables. Frequency counts, percentage weight values and weighted mean were used in the analysis and interpretation of data.

Ethical Issues

Ethical principles were considered during the conduct of the study. The names of and the information of respondents remained confidential. Every respondent was given ample time to read the information concerning the study and its conditions. Respondents were given a chance to explain their right to ask questions and to leave from the study anytime.

Data Analysis

Quantitative form of research was utilized by the researchers in analyzing and interpreting the data. This method was used to employ the common problems of teachers and learners in the implementation of blended learning in the East Tacurong Cluster, City Schools Division of Tacurong.

The responses of the respondents were analyzed using Likert scale as follows:

Rating scale	Verbal Description	Range of Scores
5	Always	4.50-5.00
4	Oftentimes	3.50-4.49
3	Sometimes	2.50-3.49
2	Seldom	1.50-2.49
1	Never	1.00-1.49

V. RESULT AND DISCUSSION

Table 1 Common Problems of Teachers in the Implementation of Blended Learning

Item	Mean	Verbal Description
1. Teacher experiences a hard time expressing instructional content to his/her learners	3.75	Oftentimes
2. Unstable mobile internet connection	3.75	Oftentimes
3. Existing health condition	2.33	Seldom
4. Destructions such as noise	3.41	Sometimes
5. Preparations of self-learning modules and online setup	3.31	Sometimes
GRAND MEAN	**3.31**	**Sometimes**

Table 1 shows the common problems of teachers in the implementation of blended learning. The above data revealed that item number 1 and 2 got the highest mean of 3.75 stated that the teacher experiences a hard time expressing instructional content to his/her learners and unstable mobile internet connection with verbal description of Oftentimes. While item number 3 obtained the lowest mean of 2.33 with verbal description of seldom. However, the above table yielded a grand mean of

3.31 and is described as Sometimes. This implies that the problems existing with the implementation of blended learning by the teachers were at a moderate level.

Table 2 Common Problems of Learners in the Implementation of Blended Learning

Item	Mean	Verbal Description
1. Obtaining difficulty on the understanding of topic or competencies	4.36	Oftentimes
2. Poor internet connection	4.26	Oftentimes
3. Great number activities affect mental health condition	3.65	Oftentimes
4. Distraction from the family members	3.57	Oftentimes
5. Printing quality of self-learning modules	2.38	Seldom
GRAND MEAN	**3.64**	**Oftentimes**

Table 2 shows the common problems of learners in the implementation of blended learning. The records clearly show that four out of five variables obtained a uniform verbal description of Oftentimes but item number 1 yielded the highest mean of 4.36 and stated that learners have difficulty with understanding of topics or competencies. While the item number 5, which yielded the lowest mean of 2.38, and described as Seldom. Moreover**,** the above table has a grand mean of 3.64 with verbal

description of Oftentimes. This only signifies that the problems existing with the implementation of blended learning by the learners were high.

Table 3 Possible alternatives to be imposed for the improvement or enhancement of blended learning

Possible alternatives	Frequency	Percent
1. Set up of strong internet connection	19	38
2. Purchased of gadgets to support blended learning	16	32
3. Provide ICT expert to assist in in the delivery of blended learning	10	20
4. Intensive training on blended learning specially in using online platform	4	8
5. Error free and readable Self-Learning Modules	1	2
Total	**50**	**100**

Table 3 above shows the possible alternatives to be imposed for the improvement of blended learning. As observed, indicator number 1 stated that the set up of strong internet connection got the highest frequency of 19 or 38% of the total number or the majority of the respondents wanted strong internet connectivity. Second was the purchase of gadgets to support blended learning, responded by 16 or 32% of the respondents. While indicator number 5 stated that error free and

readable Self-Learning Modules got the lowest frequency of 2% or 1 out of 50 respondents.

VI. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Common problems of teachers in the implementation of blended learning yielded a grand mean of 3.31 and described as Sometimes or moderate level.
2. Common problems of learners in the implementation of blended learning yielded a grand mean of 3.64 and described as Oftentimes or high level.
3. Set up of a strong internet connection with the highest frequency of 19 or 38%, was the most priority alternative for the improvement of the program.

Recommendations

1. Internet connectivity must be given special attention.
2. Online setup must be done by the experts to eliminate or minimize technical problems.
3. Teachers must be fully trained in terms of online instructional materials for them to deliver competencies effectively.
4. The findings of the study shall be the basis for the future research which will include other schools with wider scopes.

VII. ACTION PLAN

Goals and Objectives	Activities/Strategies	Persons Involved	Resources Needed	Budgetary Requirements	Budget Source	Time Frame	Mode of Verification
Procure internet router to facilitate strong internet connection	Craft a project design to purchase internet router	School head, researchers, ICT coordinator	Internet Router, and Labor	20,000.00	School MOOE	January 2023	Approved Project Design and Liquidation Report
Capacitate teachers in the delivery of blended learning	Conduct training workshop on the delivery of blended learning	School head, researchers, teachers, and resource persons	Office supplies, projector, laptop, sound system, food, snacks	15,000.00	School MOOE	February 2023	Attendance, Monitoring and Evaluation Sheets
Find support from the stakeholders in the implementatio	Search for possible partners and execute Memorandum of Agreement (MOA)	School head, researchers, teachers, PTA officers	Office supplies, and mobilization fund	50,000.00	Donation	January-December 2023	Memorandum of Agreement (MOA), Deed of Donations, and Liquidation Report

n of blended learning							

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VIII. REFERENCES

Baldwin-Evans, K. (2006). Key steps to implementing a successful blended learning strategy. Industrial and Commercial Training, 38(3), 156-163. doi:10.1108/00197850610659427

Banks, J. (2001). From boring to "Blackboarding": Building participation through VLE group work. Retrieved from http://cebe.cf.ac.uk/learning/casestudies/case_pdf/jbanks.pdf

Bliuc, A. M., Goodyear, P., & Ellis, R. A. (2007). Research focus and methodological choices in studies into students' experiences of blended learning in higher education. The Internet and Higher Education, 10(4), 231-244. doi:10.1016/j.iheduc.2007.08.001

Burns S. *(2010).* Distance education for teacher training: Modes, models, and methods. *Educational Development Centre.*

Chickering, W. A., & Gamson, F. Z. (1987). Seven principles for good practice in undergraduate education. The American Association for Higher Education (AAHE) Bulletin.

Donnelly, R. (2010). Harmonizing technology with interaction in blended problem-based learning. Computers & Education, 54(2), 350-359. doi:10.1016/j.compedu.2009.08.012

Dziuban, C., Hartman, J., Juge, F., Moskal, P., &Sorg, S. (2006). Blended learning enters the mainstream. In C. J. Bonk & C. R. Graham (Eds.), Handbook of blended learning: Global perspectives, local designs (pp. 195-208). San Francisco, CA: Pfeiffer.

Garrison, D. R., & Vaughan, N. D. (2008). Blended learning in higher education: Framework, principles, and guidelines. San Francisco, CA: Jossey-Bass

Ginns, R., & Ellis, R. (2007). Quality in blended learning: Exploring the relationships between on-line and face-to-face teaching and learning. The Internet and Higher Education, 10(1), 53-64. doi:10.1016/j.iheduc.2006.10.003

Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), Handbook of blended learning: Global perspectives, local designs (pp. 3-21). San Francisco, CA: Pfeiffer.

Green, S. M., Weaver, M., Voegeli, D., Fitzsimmons, D., Knowles, J., Harrison, M., & Shephard, K. (2006). The development and evaluation of the use of a virtual learning environment (Blackboard 5) to support the learning of pre-qualifying nursing students undertaking a human anatomy and physiology module. Nurse Education Today, 26(5), 388-395. doi:10.1016/j.nedt.2005.11.008

Graham, C. R. (2006). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.), Handbook of blended learning: Global perspectives, local designs (pp. 3-21). San Francisco, CA: Pfeiffer.

Hara, N. (2000). Student distress in a web-based distance education course. Information, Communication & Society, 3(4), 557-579. doi:10.1080/13691180010002297

Hara, N., & Kling, R. (1999). Students' frustrations with a web-based distance education course. First Monday, 4(12). Retrieved from http://www.firstmonday.org/article/view/710/620 Harris

Harris, P., Connolly, J., & Feeney, L. (2009). Blended learning: Overview and recommendations for successful implementation. Industrial and Commercial Training, 41(3), 155-163. doi:10.1108/00197850910950961

Jonas, D., & Burns, B. (2010). The transition to blended e-learning. Changing the focus of educational delivery in children's pain management. Nurse Education in Practice 10(1), 1-7. doi:10.1016/j.nepr.2009.01.015

King, K. P. (2002). Identifying success in online teacher education and professional development. The Internet and Higher Education, 5(3), 231-246. doi:10.1016/S1096-7516(02)00104-5

Littlejohn, A., & Pegler, C. (2007). Preparing for blended e-learning. Abingdon, UK: Routledge.

López-Pérez, M. V., Pérez-López, M. C., & Rodríguez-Ariza, L. (2011). Blended Learning in Higher Education: Students' Perceptions and Their Relation to Outcomes. Computers & Education, 56, 818-826.

Marsh, D., Pountney, R., &Prigg, R. (2008). C-SAP scoping survey on the use of e-learning in the social sciences. Birmingham, UK: Higher Education Academy Centre for Sociology, Anthropology and Politics.

Mason, R., & Rennie, F. (2006). E-learning: The key concepts. Abingdon, UK: Routledge.

Mitchell, A., &Honore, S. (2007). Criteria for successful blended learning. Industrial and Commercial Training, 39(3), 143-149. doi:10.1108/00197850710742243

Nunan, T., George, R., & McCausland, H. (2000). Rethinking the ways in which teaching and learning are supported: The Flexible Learning Centre at the University of South Australia. Journal of Higher Education Policy and Management, 22(1), 85-98. doi:10.1080/713678130

O'Toole, J. M., & Absalom, D. J. (2003). The impact of blended learning on student outcomes: Is there room on the horse for two? Journal of Educational Media, 28(2-3), 179-190. doi:10.1080/1358165032000165680

Saltzberg, S., &Polyson, S. (1995). Distributed learning on the World Wide Web. Syllabus, 9(1), 10-12.

Owston, R., Wideman, H., Murphy, J., &Lupshenyuk, D. (2008). Blended teacher professional development: A synthesis of three program evaluations. The Internet and Higher Education, 11(3-4), 201-210. doi:10.1016/j.iheduc.2008.07.003

Sharpe, R., Benfield, G., Roberts, G., & Francis, R. (2006). The undergraduate experience of blended elearning: A review of UK literature and practice. York, UK: The Higher Education Academy. Retrieved from http://www.heacademy.ac.uk/assets/documents/teachingandresearch/Sharpe_Benfield_Roberts_Francis.pdf

Sloman, M. (2007). Making sense of blended learning. Industrial and Commercial Training, 39(6), 315318. doi:10.1108/00197850710816782

Smyth, S., Houghton, C., Cooney, A., & Casey, D. (2012). Students' experiences of blended learning across a range of postgraduate programmes. Nurse Education Today, 32(4), 464-468. doi:10.1016/j.nedt.2011.05.014

Stacey, E., &Gerbic, P. (2008). Success factors for blended learning. In R. Atkinson & C. McBeath (Eds.), Hello! Where are you in the landscape of educational technology? Proceedings of the 25th ASCILITE Conference (pp. 964-968). Melbourne, Australia: Deakin University. Retrieved from http://www.ascilite.org.au/conferences/melbourne08/procs/stacey.pdf

Twigg, C. A. (2003a). Improving learning and reducing costs: Lessons learned from Round 1 of the Pew grant program in course redesign. Troy, NY: Center for Academic Transformation. Retrieved from http://www.thencat.org/PCR/R1Lessons.html

Twigg, C. A. (2003b). Improving learning and reducing costs: New models for online learning. EDUCAUSE Review, 38(5), 28-38. Retrieved from http://net.educause.edu/ir/library/pdf/ ERM0352.pdf

Trasler, J. (2002). Effective learning depends on the blend. Industrial and Commercial Training, 34(5), 191-195. doi:10.1108/00197850210437111

Vaughan, N. D. (2007). Perspectives on blended learning in higher education. International Journal on E-Learning, 6(1), 81-94. Retrieved from EdITLib Digital Library. (6310)

Wang, M., Shen, R., Novak, D., & Pan, X. (2009). The impact of mobile learning on students' learning behaviours and performance: Report from a large blended classroom. British Journal of Educational Technology, 40(4), 673-695. doi:10.1111/j.1467-8535.2008.00846.x

Welker, J., &Berardino, L., (2005-2006). Blended learning: Understanding the middle ground between traditional classroom and fully online instruction. Journal of Educational Technology Systems, 34(1), 33-55. doi:10.2190/67FX-B7P8-PYUX-TDUP

Williams, N. A., Bland, W., & Christie, G. (2008). Improving student achievement and satisfaction by adopting a blended learning approach to inorganic chemistry. Chemistry Education Research and Practice, 9(1), 43-50. doi:10.1039/B801290N

Woltering, V., Herrler, A., Spitzer, K., &Spreckelsen, C. (2009). Blended learning positively affects students' satisfaction and the role of the tutor in the problem-based learning process: Results of a mixed-method evaluation. Advances in Health Sciences Education, 14(5), 725-738. doi:10.1007/s10459-009-9154-6

Yen, J.-C., & Lee, C.-Y. (2011). Exploring problem solving patterns and their impact on learning achievement in a blended learning environment. Computers & Education, 56(1), 138-145. doi:10.1016/j.compedu.2010.08.012