Perspectives on Blended Learning Models and Recommendations on Instructional Applications

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The field of education and teaching practice have gone through significant curricula, structural, taxonomic and pedagogical *changes* as well as policy reforms in recent years. Globally, educators and the *Education Ministries* keep updating and adapting instructional innovations to make teaching more effective, learning more inclusive and instructional strategies differentiated and more efficient. Technological advancements continue to dictate and drive these *changes*. Educators are being increasingly challenged to migrate and design contents and learning models to help *digital native students* engage with their learning in deep, and rich textual interactive ways. This perspective paper reviews the *Hybrid* and the *Blended Instructional Methods, (H&BIM)*. It recommends strategies and migration objectives, from traditional instructional model to a more efficient, flexible and interactive learning models. Research have shown that blended learning models can, indeed, afford innovative and effective ways to enhance students success, and as well provide them needed control over their learnings.

The Background

Blended Learning Model (BLM) is a formal and modern education design in which a student learns partly online (with some element of control over the time, place, path, or pace of their learning) and partly in formal school/instruction venue (i.e., in-person and what some literature called a *brick-and-mortar* location away from home) or simultaneous mixed instructional design (and technology enabled connection) to provide an integrated, augmented and interactive in-person learning experience. The benefits are often inflated with sentiments and some of the reports involved participants with "immigrants neophilia effects"!

Blended Learning and the Hybrid Education Models, HEM, exemplifies a growing shift from teacher-centered to learners-centered, particularly social-contexts and scaffold instructional or pedagogical approach. In fact, "*Higher education has been pressured to shift towards more flexible, effective, active, and student-centered teaching strategies that mitigate the limitations of the traditional lecture approach [and usually less engaging, overpopulated and mostly low achievers classes]*". Persky, A. M., & McLaughlin, J. E. (2017). The philosophical foundation, **Social and Contextual Learning Theories**, emerged in the late 20th century challenging both the teacher-centered and individualized learning models.

For instance, the *Community-Inquiry Based Learning*, CIBL, is a teaching and learning approach that helps students to gain as much support and learning from social inclusiveness, mature person guidance and peer engagement activities. It is based on the foundation work of education psychologist such as John Dewey (1938) and Vygotsky (1997) . Vygotsky advocated the use of individual educative and guided experience within a peer or *socially-interactive forum* and hence the construction of this individual's own knowledge structures and learning space organization as key to engagement and learning outcomes. He placed more emphasis on social contributions to the process of development (*where a child proxima zone in the interaction enables a filling of the gaps in skill and knowledge*), whereas Piaget emphasized self-initiated discovery. *Kendra Cherry,(n.d)*

Blended learning is meant to increase learners' levels of knowledge construction, team work skills and productivity, analytical skills and critical thinking through peer discussion, online research and study, application and reflection to context of *Instructional Objectives* and innovative extension of the education. The advantages include differentiated instruction, scaffolded *instruction* and direction (to reading assignment, discussion activity site, etc), feedback and rubrics, and individual student have control on the learning, time and motivation. *Scaffolding Theory* was first introduced in the late 1950s by Jerome Bruner, a cognitive psychologist. Visit K-12Academics for more information.

Consider students who would like to take a specific elective or advanced course not offered by the school, students with schedules that prohibit them from attending certain classes, or students who have dropped out but wish to continue education as they work and at their own pace and control (limited choice of time of readiness or number of shifts) or those that prefer modular certification, upskill on the profession, workshop and advance training, etc.

Each blended-learning model requires varying degrees of technology (e.g, cloud and fog database, internet access and communication technology). It requires specifications of what to control and the role for both teachers and students, the modularized contents, and leveraging innovation to personalize learning, extend access, and balance in costs, time , expected standard contents/competence.

The needed areas of competence by the educators or instructors are usually the basic technology skills, time disposition and management, and mastery of the subject matter. Also, the ability to effectively combine *online instruction* with in-person instruction. The *Digital literacy* and practices needed include the ability to use digital tools for social engagements and to monitor student activity and performance in order to guide student growth, communication with individual, virtual meeting space design (just like physical sitting control) and ensure inclusive or active participation.

The Blended Learning and Instructional Models

Station Rotation Learning Model

The *Station Rotation* Model allows students to rotate through learning stations on a fixed schedule, where at least one of the stations is an online learning station. This model is most common in elementary schools because teachers are already familiar with rotating in "centers" or stations. In a case study of IDEA Public Schools in Texas published by DreamBox Learning, the rotational model of blended learning was determined to be an effective means of increasing the achievement of students. They became more active learners and often challenged themselves to work harder and learn material that had not yet been introduced in their math classroom. DreamBox

Lab Rotation Learning Model

The Lab Rotation Model also allows students to rotate through stations on a fixed schedule. However, in this case, online learning occurs in a dedicated computer lab or in science laboratories or by login into the institution chosen Moodle or LMS. The model allows flexible scheduling arrangements with teachers and other para-professionals, and enables schools to make use of existing computer facilities, multimedia centre and tools for video conferencing a seminar or science demonstrations. Students join using conferencing apps like Microsoft Team and Zoom, etc. TCI, (April 5, 2021)

Self- blended or Individual Rotation

This model allows students to rotate through stations, but on individual schedules set by the students themselves, and given the course and the Moodle (LMS) features. Unlike other rotation models, students rotate only to the activities or learning schedule on their own playlists

or date appointments. This gives students the opportunity to blend learning and classes beyond what is already offered at their school or any regular education institution (e.g. online workshop, data mining and analysis with a particular software, etc.)

Individuals that choose this model (and LMS such as Coursera, FutureLearn, Data Camp, Khan Academy, , etc) are often mature students, young children learning coding and robotics, teachers upskilling in 21st century skills, etc. Self blended learning is very helpful for dropout students to recover, earn college credit or to recover credits through MOOCs micro certificates. It requires students to monitor their learning process, take initiatives and self discipline which the younger students may have difficulty with - thus unlikely choice for elementary students, rotational blended learning model works well for elementary school education.

Flipped Classroom Model

This model initially flipped the traditional face-2-face class with video lectures or animated contents meant to introduce a topic than supplement a learning. The flipped classroom (also called reverse, or inverse classroom) is a pedagogical approach in which basic concepts are provided to students for pre-class learning so that class time can apply and build upon those basic concepts. It requires a systematic and evidence-based approach to designing instruction, starting with a clear definition of learning objectives and ensuring that all activities are aligned to achieve the desired objectives.

The history dates back to 19th century however three are significant: some University of Miami professors in their article, 2000 ; Bergmann and Aaron Sams' PowerPoint video "**pre-broadcasting"** in 2007/8; Salman Khan of Khan Academy, in 2003 started using internet and YouTubeYouTube to flip teaching. Persky, A. M. & McLaughlin, J. E. (2017), Stephen Noonoo, (June 20, 2012).

A La Carte Learning Model

The *A La Carte* model enables students to take an online course with an online teacher of record, in addition to other face-to-face courses, which often provides students with more flexibility over their schedules. The *A La Cartel* courses can be a great option when schools can't provide particular learning opportunities, such as an advanced, proficiency or elective course, making it one of the more popular models in blended high schools. Whereas, in a Flex model the teachers provide support and references for online research and mentorship. This gives students a high degree of learning, control and resourcefulness. TCI, (April 5, 2021)

Enriched Virtual Learning Model

The Enriched Virtual model fits distance learning needs and is an alternative to full-time online school that allows students to complete the majority of coursework online at home or outside of school, but attend school for required face-to-face learning sessions with a teacher. Unlike the *Flipped Classroom*, Enriched Virtual programs usually don't require daily school attendance; some programs may only require twice-weekly attendance and approved *proctor* for final examination. TCI, (April 5, 2021)

Howbeit, the following recommendation are suggested when a school/ministry of education decided to choose an *Appropriate Model* from the point of solving instructional problems:

1. When tackling non-consumption problems (subject, areas and supporting materials not given in the formal in-person education), consider Individual Rotation, Flex, A la Carte and Enriched Virtual models.

2. When tackling core problems (needs for video or interactive visual supplements and rotation between core contents as technology affordance (application in activities, demonstration and collaborations, etc.) allows. Then the choice of blended instructional models to consider include Station Rotation, Lab Rotation, and Flipped Classroom.

Regardless of which model is employed, ASCD 2020 recommends that educators incorporate the following attributes in their models: attention-grabbing contents that activate student engagement, chunking strategies to help students develop new skills, checks for understanding and assessments that align with learning goals. And, I add ease of use, scaffolding and embedding tools for measuring satisfaction, which depends on motivating factors like achievement, recognition, responsibility, advancement, and growth.

Most countries in Africa, developing countries in South America, and the Middle East excluding India are yet to substantially migrate or work out education policies and official adoption of these innovations in instructional strategies. If not for covid-19 pandemic, informed *lockdown*, online education wouldn't have been accepted nor popularized. Education system in the developing countries are still being disrupted by security problems, strike actions and natural disasters. Other problems affecting learning and access to education include overpopulated classes, poverty, poor maintenance culture and high level corruption. .

Conclusion

The global education field has gone through significant evolution. The instructional strategies are getting more tech-augmented in recent years, tending towards 4.0 iEducation even as

the related inequalities across nations widen. Educators and the Education Ministries in the developing countries are struggling to catch up with the 21st century advancements, and the capacity needs of the 4.0 industrial revolution. The helps needed are in shaping an adaptive policies, funding and redesigning of education programs and contents. The updated Bloom's (i.e., digital) Taxonomy of Education and the hybrid learning models are so far positively influencing learning styles, education access and instructional design, mainly in developed countries, South Africa and the Middle East.

This article aims at contribution to the discuss and literature on the changing *Taxonomy of Education* and developing learning models that could help students engage with their learning in deeper, more interactive, flexible and social contextual ways. The blended learning models provides supplementary and augmented education for those with time and access opportunity disadvantages. Hybrid teaching approach not only support the teaching of the 21st century skills, but offers tools for both fast assessment process and remedial education. The foundational tenets of conventional instruction hinge on uniformity, community tradition, transition qualification and compliance to requirements relating to schooling, percentage of in-person attendance with cohort.

Truly, online Education cannot replace in-person classroom education. There is need for rigorous research, not just on how educators use online learning or the students preferences, but whether online/blended learning really output the benefits and significant edge over the traditional learning, as it was. New to the blended model, some teachers may start overdelivering content and educational activities! Beyond the initial "immigrants neophilia effects", knowledge of the true dynamics and potential pitfalls can guide policy makers, software developers and the design of hybrd LMS by institutions and educators in K–12 schools, technical or teachers training colleges and universities.

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