How to publish your results

Peter GM de Jong

Netherlands

IAMSE Editor-in-Chief

Overview

- Reasons to publish
- Different venues
- How is a journal organized?
- How to select a journal?
- Different article types
- Strategies for success

Why to publish?

Academic publishing:

Move current knowledge base forward by building upon the work of others

- Share your experiences in medical education
- Present new findings or insights
- Comment on previously published work

Venues to present

Venues to present

- Presentations at your own institution
- National medical education conferences
- International medical education conferences
- Local newsletters
- Academic journal
- Book(chapter)
- Thesis
- Digital repositories

Conferences

Poster or oral presentation

- Short abstract of presentation
- Publication in program book/proceedings
- Quality requirements less strict

Goal: discussion, improve and strengthen your research

Written domain

Academic Journals

- Full manuscripts
- Peer-review
- Quality requirements very strict
- Traditional or Open Access publication model

Written domain

Academic Journals extraordinary growth

Trend over the years:

- Does it work? (describe)
- Does it work better? (compare)
- **What works better in which context?**
- **Why does it work? (explain)**

Move current knowledge base forward by building upon the work of others

Digital Repositories

Publish your digital ‘products’ such as:

- Slides
- Cases
- Images

MedEdPORTAL (AAMC)

- Peer-reviewed
- Formal citation

How does a journal work?

How does a journal work?

Major steps

1. Submission process
2. First selection by Editor-in-Chief
3. Review process
4. Revision process
5. Publication in journal

Submission

Read the **Instruction for Authors**

- Style
- Language
- Types of manuscripts
- Referencing
- File format for manuscript and figures
- Internal Review Board approval

Incomplete will be returned!

First Selection

By Editor-in-Chief

- Topic appropriate for journal
- Manuscript interesting for audience
- Volume considerations

Selected means: the Editor-in-Chief considers publication on condition of good quality of work

Review process

- Peer review: peers/experts in the field (reviewers) critically look at author's scholarly work before a paper is published in a journal
- Typically 3 or more independent experts
- Guided by an (associate) editor
- Open, single-blinded or double-blinded review

Review process

Peer review:

- Quality check
- Critically analyzed (study design, analysis)
- Constructive comments to authors

Goal is to provide comments to improve the work to make it acceptable for publication; authors can benefit from that

Revision process

- Carefully read the comments
- Make adjustments as requested
- If the author disagrees, let editor know!
- Try to respond in time

If revised appropriately > publication

If not > re-revision of rejection

How to select a journal?

Basic Science Education: *(n=5)*
Advances in Physiology Education
Anatomical Sciences Education
Biochemistry and Molecular Biology Education
Cell Biology Education-Life Sc. Ed.
J. Microbiology & Biology Education

Chiropractic Education: *(n=1)*
J. of Chiropractic Education

Clinical Education: *(n=13)*
Academic Emergency Medicine
Academic Pediatrics
Academic Psychiatry
Acad. Radiology
Am. J. of Medicine
Am. J Obst & Gyne
Am. J. Surgery
Croatian Medical J
JAMA – Education issue
J. of Gen. Internal Medicine – Educ. Section
J. Family Medicine
Neurology
Obstr & Gyne

Dental Education: *(n=2)*
European Journal of Dental Education
J. of Dental Education

Medical Education: *(n=36)*
Academic Medicine
Advances in Health Sciences Education
BMC Medical Education
Can. Med. Educ. J.
Education for Health
Education for Primary Care
Investigación en Educación Médica
Educacion Medica (Spain)
Evaluation in the Health Profession
Focus on HPE
German J. of Medical Education
Gerontology & Geriatrics Education
International J. of Clinical Skills
International J. of Medical Education
Internet J. Allied H. Sc.& Pract.
Internet J. of Medical Education
J. Continuing Education in the HPs
J. of European CME
J. of Graduate Medical Education
J. Medical Education
J. Nippon Medical School
J Surgical Educ
MedEdPortal
Medical Education
Med Ed Development
Medical Education On-Line
Medical Science Educator
Medical Teacher
Open Med Educ J.
Pédagogie Médicale
Perspectives on Medical Education
Revista Brasileira de Educação Médica
Simulation in Health Care
South East Asian J. Medical Education
Teaching & Learning in Medicine
The Clinical Teacher

Interprofessional Care *(n=2)*
J. of Interprofessional Care
J. of Research in Interprofess. Practice in Educ

Nursing Education: *(n=6)*
Internat. J. of Nursing Education Scholarship
J. of Continuing Education in Nursing
J. of Nursing Education
Nurse Education Today
Nursing Education Perspectives
Clinical Simulation in Nursing

Osteopathic Medicine: (n=1)
J Am Osteopathic Assoc.

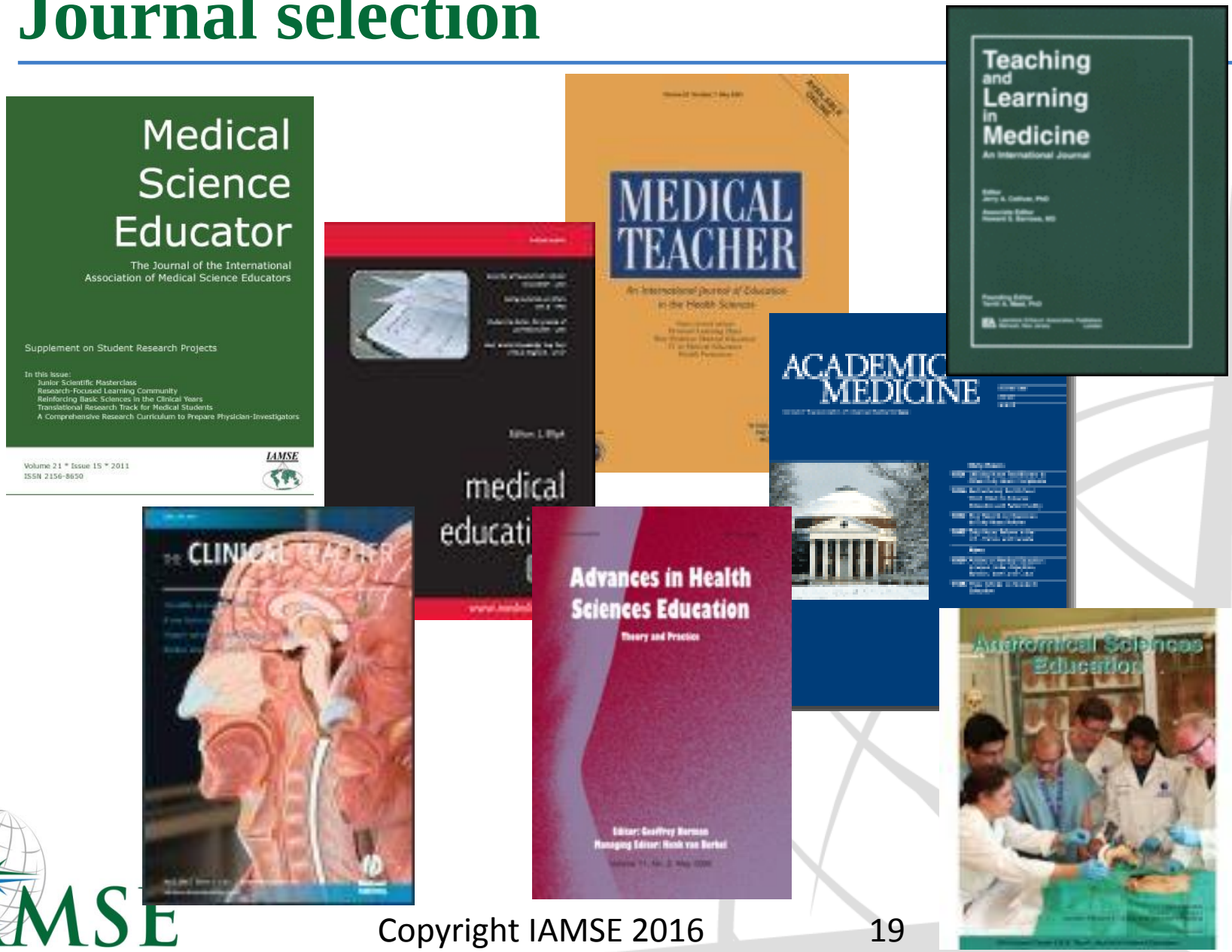
Pharmacy Education: *(n=2)*
Am. J. Pharmaceutical Education
Pharmacy Education

Physical Therapy Education: *(n=1)*
American J. of Physical Therapy Education

Physician Assistant Education: *(n=1)*
J. of Physician Assistant Education

Veterinary Education: *(n=1)*
J. of Veterinary Medical Education

Journal selection



Journal selection

- Which journal to choose?
  - Appropriate field (in doubt: ask Editor)
  - Readership
  - Rejection rate
  - Previous experiences
  - Traditional or Open Access publishing model
  - Indexed in PubMed or not
  - Prestige of journal (well read, impact factor)

Journal selection

Publishing Models

- Traditional Publishing model
  - Free submission
  - Reader pays by journal subscription
- Open Access Publishing
  - Journal free available
  - Authors pays by submission fees
- Mixed model

Journal selection

Citation Index:
Bibliographic index to trace the progress of research by searching the published works that cite a particular author or article (*building upon the work of others*)

Academic citation indexes:
MEDLINE, Web of Science, Scopus, Google Scholar, Science Citation Index, Index Medicus, …

Journal selection

PubMed:
Free search engine including citations from MEDLINE and others. Maintained by US National Library of Medicine (NLM) at the National Institutes of Health (NIH). Only journals that meet PubMed's scientific standards are indexed (quality control)

The impact factor:
Average number of citations received per paper published in that journal during 2 preceding years

Journal selection

- PubMed indexed journal
- High impact factor

Favorite journals > higher rejection rate > makes is also more difficult ‘to get in’….

Article types

Article types

Common mistake:

- 1st choice = research article — full data

But there is more!

- short communications — preliminary data
- Monograph — general topic
- Commentary — viewpoints
- Innovation — no data, just idea
- 12-Tips — how-to

Example of research article

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ORIGINAL RESEARCH

How to Identify At-Risk Medical Students Based on Learning Style, Personality Indicator, and Learning Strategy Tests—a Mixed Method for a Pilot Study

Amina Sadik · Leticia Rojas

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Abstract The number of students experiencing academic difficulty continues to be a prevalent and serious issue among medical schools worldwide. While some studies have investigated the causes of underperformance, none have identified markers of "at-risk" students. This study used three diagnostic tests to determine possible identifying characteristics of students performing at different levels. Our results indicate that students with a diverging learning style may struggle in medical school and need to be guided toward a learning style that is more suitable to their career paths. Learning and Study Strategies Inventory (LASSI) reveals that low-performing students need assistance honing their test-taking and self-assessment skills. This test can be a good complement to the Kolb Learning Style Inventory (LSI). In order to promote the academic success of medical students, adequate diagnostic tests should be utilized upon the students' matriculation to assist in finding their learning styles, strengths, and weaknesses. Thereafter, a combination of study skills, test-taking strategies, and time management learning tools should be provided to those identified to be "at risk" academically, in order to increase their chances of success.

Keywords At risk · Performance levels · Diagnostic tests

Introduction

Despite medical schools' efforts to admit only students whom they believe meet the criteria necessary for academic success as indicated by their GPAs, MCAT scores, personal interviews, and other various standards, a percentage of matriculated medical students will inevitably struggle [1, 2]. These "at-risk" students then become in danger of failing one or more courses, or of withdrawal or dismissal from medical school, due to academic underperformance [3, 4]. Clearly, the current selection criteria are not sufficient to avoid this difficulty. Therefore, it is necessary to find other indicators or markers of potential academic performance in order to identify "at-risk" students as soon as they matriculate, rather than await the results of the first set of exams [2].

Early intervention for remediation is a vital process within institutions where there is no option of a decelerated curriculum, as failure may eventually lead to dismissal [5, 6]. Several studies have investigated the causes of underperformance or academic failure by undergraduate medical students [3, 4, 7–10]. However, none have listed academic markers or identifiers of "at-risk" students, nor suggested effective ways to remediate them at any level of medical education or training.

Therefore, this study has analyzed the results of the learning styles and diagnostic tests taken by students performing at different levels of medical education at Touro University Nevada (TUN). These diagnostic tests were administered in order to elucidate the dissimilitude of characteristics, aptitudes, and learning styles among students at different levels of performance, thereby serving as markers of "at-risk" students [11–14].

Although the sample of students participating in this study is too small to have any significant statistical value, its results as a pilot study may lead to a larger undertaking to verify whether there is a real correlation between the predictions of the diagnostic tests and student performance at least in the first 2 years of medical school.

Study Design and Methods

Institutional Review Board Approval and Consent Form

The research proposal was approved by the Institutional Review Board (IRB) after a full review. A consent form was drawn up by the principal investigator (PI) explaining the goals of the study. Each participant received a copy prior to participation and was given time to read and sign the form before getting involved in this project.

The diagnostic test reports were coded by the PI in order to keep the identity of the participants anonymous. All collaborators in this project received the adequate training to work with human subjects and learned how to handle personal information, thereby conforming to the rules and regulations of the Family Educational Rights and Privacy Act (FERPA).

Recruitment and Sample

Using the email system of the institution, a call for participation message was sent during the spring semester of the 2010–2011 school year to all osteopathic medical students from all 4 years of undergraduate medical education. From all the respondents, a cohort was created to include nine students from each year, consisting of three high-performing students (HPS), three medium-performing students (MPS), and three low-performing students (LPS), resulting in a sample of 36 participants.

The differentiation among academic performance levels was based on GPA at the end of each academic year and was categorized as follows: high performing (4.0–3.5 GPA), medium performing (3.45–3.0 GPA), and low performing (2.9–2.0 GPA).

Diagnostic Tests to Discriminate Among Students of Different Performance Levels

In order to determine the characteristics of students based on their study skills and psychological traits at different levels of academic performance, three different tests were selected. For convenience, the participants were given the opportunity to take the diagnostic tests online. Each test supplier provided a complete and specific report for each participant.

Kolb Learning Style Inventory (LSI)

This test assists in determining each student's learning style among the four distinct types which include assimilating, accommodating, diverging, and converging. According to Kolb's theory, these styles are based on a four-stage "learning or training cycle" [15]. This test offers both a way to understand different learning styles and a way to explain a cycle of experiential learning that applies to all learners.

Learning and Study Strategies Inventory (LASSI)

This test is both diagnostic and prescriptive. It identifies the strengths and weaknesses of a given student and provides feedback about areas where a student should be assisted in improving through educational interventions [16]. These areas, or scales, include selecting main ideas (SMI), test strategies (TST), information processing (INP), motivation (MOT), anxiety (ANX), attitude (ATT), time management (TMT), study aids (STA), self-testing (SFT), and concentration (CON). Each of the above scales contributes to either the skill, will, or self-regulation components of strategic learning within LASSI.

Myers-Briggs Type Indicator (MBTI)

MBTI is a personality inventory, the purpose of which is to understand the variation in students' behavior based on preferences in the use of perception and judgment. According to this theory, differences in perception lead to differences in the conclusions reached and, consequently, differences in interests, reactions, values, motivations, and skills [17].

The MBTI preferences are categorized into extraversion (E) or introversion (I), sensing (S) or intuition (N), thinking (T) or feeling (F), and judging (J) or perceiving (P). The personality type is then determined by the combination of preferences, which results in 16 possible MBTI personality types.

Results and Discussion

Kolb Learning Style Inventory (LSI)

The majority of the HPS had an assimilating learning style, which is characterized by the LSI as being suitable for careers in science and research (Fig. 1). The majority of MPS had an accommodating learning style, which is characterized as being suitable for careers in teaching, marketing, and sales. The majority of LPS had a diverging learning style, which is characterized as being suitable for careers in the arts. The learning style characterized by the LSI as being suitable for careers in medicine is converging. A student with a diverging learning style may have difficulty in medical school and needs to acquire elements of a learning style more suitable to medical school such as those that characterize assimilating or converging learning styles.

Learning and Study Strategies Inventory (LASSI)

According to LASSI, students who score above the 75th percentile within a particular scale tend to have a good grasp of the skill or strategy being evaluated and typically do not need to improve it. Students who score within the 50th–75th percentile should consider improving that skill or strategy, and students who score below the 50th percentile definitely need to improve that skill or strategy [16]. Figure 2a shows that the highest number of LPS lack test-taking skills and self-assessment abilities.

A. Sadik (✉) · L. Rojas
Touro University Nevada College of Osteopathic Medicine, 874 American Pacific Drive, Henderson, NV 89014, USA
e-mail: amina.sadik@tun.touro.edu

Example of research article

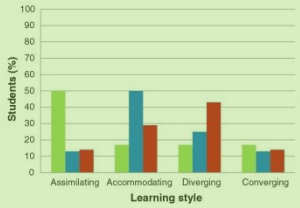

Fig. 1 The majority of HPS, MPS, and LPS had an assimilating, accommodating, and diverging learning style, respectively

Figure 2b depicts those students who scored above the 75th percentile. HPS seem to be skilled in studying techniques and testing strategies and are highly motivated. LPS seem to lack

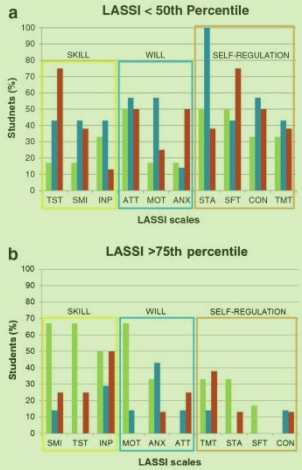

Fig. 2 **a** The largest number of LPS needed improvement in the area of test strategies and self-assessment. *SMI* selecting main ideas, *TST* test strategies, *INP* information processing, *MOT* motivation, *ANX* anxiety, *ATT* attitude, *TMT* time management, *STA* study aids, *SFT* self-testing, *CON* concentration. Each of the above scales contributes to either the skill, will, or self-regulation components of strategic learning within LASSI. **b** A greater number of HPS scored above the 75th percentile in the ability to select main ideas, in their test strategies, motivation, use of study aids and self-testing, than did LPS

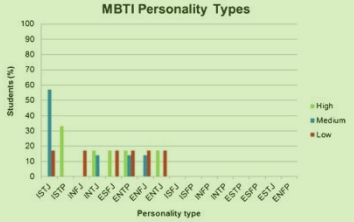

Fig. 3 Among HPS, 33 % had an ISTP personality type. Among the MPS, 57 % had an ISTJ personality type. The personality types of the rest of the students among all performance levels were evenly distributed. *ENFJ* extraversion, intuition, feeling, judging; *ENFP* extraversion, intuition, feeling, perceiving; *ENTJ* extraversion, intuition, thinking, judging; *ENTP* extraversion, intuition, thinking, perceiving; *ESFJ* extraversion, sensing, feeling, judging; *ESFP* extraversion, sensing, feeling, perceiving; *ESTJ* extraversion, sensing, thinking, judging; *ESTP* extraversion, sensing, thinking, perceiving; *INFJ* introversion, intuition, feeling, judging; *INFP* introversion, intuition, feeling, perceiving; *INTJ* introversion, intuition, thinking, judging; *INTP* introversion, intuition, thinking, perceiving; *ISFJ* introversion, sensing, feeling, judging; *ISFP* introversion, sensing, feeling, perceiving; *ISFP* introversion, sensing, thinking, judging; *ISTP* introversion, sensing, thinking, perceiving; *LASSI* Learning and Study Strategies Inventory; *MBTI* Myers-Briggs Type Indicator

motivation and self-testing methods and need to improve studying techniques and test strategies, yet have a better attitude about their educational goals. This tool, in conjunction with the LSI, could be a very good diagnostic tool, allowing for discrimination between students based on their learned or innate abilities.

Myers-Briggs Type Indicator (MBTI)

The results show a wide range of personality types among all participants. Overall, the test could not identify at-risk students because LPS did not have a common personality type

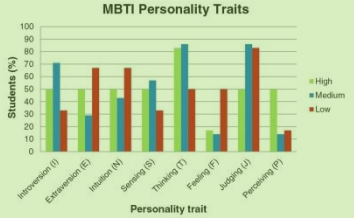

Fig. 4 HPS and MPS tend to make decisions by thinking. LPS tend to be extraverts who process information by intuition

(Fig. 3). MBTI may not be the best diagnostic test to be used in order to discriminate among students of different performance levels.

In an effort to further evaluate possible discriminating factors by using the MBTI, we analyzed trends among the individual traits (extraversion vs. introversion, sensing vs. intuition, thinking vs. feeling, and judging vs. perceiving) that make up the personality types (Fig. 4). LPS tend to be extraverts who process information by intuition. Among HPS and MPS, there was a greater tendency to make decisions by thinking rather than feeling. Again, the MBTI does not seem to be a very useful diagnostic tool, as it did not reveal any telling commonalities.

Discussion

Some learning styles seem to be predictive of the level of performance in medical school. Namely, those students with converging, assimilating, and accommodating learning styles should do well, while students with diverging learning styles may need assistance if they are to succeed in medical school. The additional advantage of the LSI is that it is designed to help expand upon students' learning strengths and encourages acquisition of other learning styles. According to the Kolb theory, one does not have to be stagnant in the learning style that he or she tends to favor. Appropriate training and education should allow each of us to move through the learning cycle in order to develop the learning style that better suits our target career [15]. Therefore, with workshops and specifically designed short courses, a medical student with a diverging learning style can acquire the necessary attributes for an assimilating or a converging learning style.

Since the LASSI reveals both strengths and weaknesses, it would be a good complement to the LSI. LASSI specifically reveals students' strengths and weaknesses in testing and studying methods, which are essential skills in an educational environment where knowledge is tested by multiple choice question exams. After using LSI to determine the learning style and LASSI to delineate the strengths and weaknesses, a student with a diverging learning style and a combination of weaknesses in skill, will, and self-regulation aptitudes should be given the tools to acquire a better learning style for their chosen careers and provided with educational training workshops to acquire the skills they lack.

Overall, LPS need academic guidance and support in study and time management skills to ensure their success. Implementing an effective mentoring program will also aid as an avenue of guidance throughout medical school.

Early identification of "at-risk" students or LPS is essential for academic intervention. Administering the recommended diagnostic tests would be best within the orientation week to allow for proactive actions to provide "at-risk" students with the tools necessary for success in medical school. As indicated by Kolb, developing a new learning style and becoming a flexible learner require hard work over a long period of time to see improvement. This endeavor necessitates (a) developing relationships with people whose learning styles are different from one's own but more suitable for medical school, (b) improving the fit between the learning style and the demands of medical school, and (c) making efforts to learn in ways that are sometimes opposite of the current preferences.

Early detection and intervention will maximize time for development of the necessary skills, thus maximizing students' potential for success and reducing their risk of becoming LPS. In order to advance the potential of this study's findings, it is necessary to investigate successful intervention programs that are currently in place at other medical schools.

While the small sample size is a limitation, the apparent value of these measures warrants further study. Analyzing the performance on several disciplines of the whole class during the first 2 years of medical school and adding other parameters such as MCAT scores and incoming GPA might further strengthen the predictive value of the abovementioned tests and should be explored.

Conclusion

Based on the results of the diagnostic tests, the LSI and the LASSI appear to be good indicators of student performance and, thusly, good markers for identification of "at-risk" students.

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Example of innovation

Med.Sci.Educ. (2014) 24:43
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INNOVATION

Teaching Third and Fourth Year Medical Students How to Cook: An Innovative Approach to Training Students in Lifestyle Modification for Chronic Disease Management

Benjamin Leong · Dennis Ren · Dominique Monlezun · David Ly · Leah Sarris · Timothy S. Harlan

Published online: 11 February 2014

Abstract

Only 27 % of medical schools meet the National Academy of Sciences' recommendation of 25 h of nutrition instruction for medical students [1]. Despite the efficacy of physician counseling on patient behavioral outcomes, only 19 % of graduating medical students are confident in their ability to provide nutrition education [2, 3]. The Goldring Center for Culinary Medicine at Tulane University addresses this disparity through one hour disease-centric seminars for third year students as well as a pioneering fourth year away rotation at Johnson & Wales University College of Culinary Arts. These programs build on a 24-h, eight module elective available to first and second year students. While prior piecemeal student nutrition initiatives have focused on lecture format, few studies utilize longitudinal hands-on cooking classes as well with sustained institutional support [4–6]. This contrasts with The Goldring Center providing students culinary and nutrition training over 4 years with the capstone away rotation at a culinary institute. Fourth year students there spend 53 h in culinary classes, 53 h teaching clinical care insights to culinary students, and 53 h learning nutritional counseling strategies in lifestyle modification and medication therapy for Rhode Island Hospital-associated clinics. Students transition into this opportunity from their third year seminars that unite hands-on cooking with case studies in nutritional strategies for chronic diseases. This curriculum component in the students' final 2 years serves as the clinical translation of the classroom and community-based learning from the two preclinical years. Ongoing longitudinal analysis of school-wide surveys and national board scores are being used to assess the effectiveness of the center's curriculum from medical school into residency and clinical practice.

Keywords Clinical nutrition · Medical students cooking

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B. Leong · D. Ren · D. Monlezun · D. Ly · L. Sarris · T. S. Harlan (✉)
The Goldring Center for Culinary Medicine, Tulane University, 1430 Tulane Avenue #8541, New Orleans, LA 70112, USA
e-mail: tharlan@tulane.edu

D. Monlezun
Tulane University School of Public Health and Tropical Medicine, New Orleans, LA, USA

Quality of writing

- Find time to write
- Focus on one topic
- Writing skills
- Write together
- Review by outsiders
- Check spelling and grammar
  - Non-native English writers

Authorship

Select co-authors wisely:

- Must be academically involved in the work
- Must contribute substantially to the writing
- Experienced or know in the field
- Keep the number of co-authors limited

Others can be acknowledged:

- Statistician
- Translator

Strategies for success

Strategies for success

- Decide what you want to present to who in which way (content – audience/journal – article type)
  - Choose an appropriate journal
  - Select the appropriate article type

- Become familiar with the journal of your choice
- Follow the instructions for authors strictly (layout, PDF, JPG, length, references etc)

Strategies for success

- Choose good co-authors, get feedback from outsides and have grammar checked

After review

- Try to understand the review comments and revise if you agree
- Meet revision deadlines or inform the journal

Questions