Balancing the scales: a reflection on technical and meta-skills in higher education

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Abstract

This paper explores the balance between technical and meta-skills in higher education through the lens of marketing, emphasising the importance of both tool proficiency and critical thinking. While technical skills like data analytics and digital tools are essential, meta-skills such as creativity, adaptability and problem-solving remain crucial in a rapidly evolving industry. Through experiential learning, project-based assessments and technology-enhanced classrooms, we advocate a holistic approach that integrates both skill sets. Highlighting curriculum innovations that bridge this gap, the paper argues that fostering meta-skill development alongside technical expertise gives students the versatility, initiative and confidence to adapt to the rapid changes and unexpected demands of a very challenging and fluid working world.

Teaching in the age of artificial intelligence (AI) feels like standing at a crossroads. On one path, the industry demands proficiency in managing cutting-edge tools and software; on the other, employers are desperate for graduates who can think critically, communicate effectively and adapt to constant change. As educators, we find ourselves asking: 'Are we truly preparing students for the realities of a dynamic and unpredictable landscape or are we simply training them to operate software? Whilst our focus lies within the discipline of marketing, the imperative to embed meta-skills in pedagogy – particularly in the light of the rapid growth of AI – extends across all business disciplines and even further into the wider educational landscape.

Keywords: meta-skills, business pedagogy, technical skills

Why meta-skills matter in marketing

Over the years in marketing, we have observed students become proficient in technical skills – learning Tableau, mastering Google Analytics, optimising search-engine rankings: they produce dashboards, run programmatic ads and build digital strategies with remarkable technical competence. The acquisition of such skills reflects how marketing curricula across higher education (HE) have responded to advances in technology and software, making training for technical expertise ubiquitous (Langan *et al*., 2019). However, when faced with ambiguous problems – those requiring nuanced judgment, creative solutions or persuasive argument – some struggle. Herein lies an uncomfortable truth: though we are arming students with tools, we are not necessarily teaching them how to wield them strategically.

Meta-skills such as critical thinking, creativity, adaptability and collaboration are not secondary skills – they are crucial marketing skills widely demanded by employers alongside technical skills (Ye *et al*., 2023; Zang and Scribner, 2024). In marketing, where change is the only constant, the ability to assess trends, challenge assumptions and craft original campaigns is invaluable. The best marketers are those who can connect dots that others miss, compose narratives that resonate and plan and execute strategies that endure. Yet, because they are harder to measure, teach and assess (Harrigan and Hulbert, 2011), such abilities are often sidelined in favour of tool-based training. The fast-moving nature of marketing (together with disruptive technologies allowing for greater automation, AI-driven insights and real-time data analytics) has exacerbated this imbalance and research has often drawn attention to the challenge of equipping marketers with both specific technical skills and meta-skills to rectify it (Neuvonen and Pecorano, 2024). Paradoxically, despite this fast-paced environment's having tended to encourage prioritisation of training for essential technical skills over the acquisition of meta-skills, it is precisely disruptive tech, such as generative AI, that makes the latter more vital than ever (Ye *et al*. 2023).

The literature presents a mixed picture of the integration of meta-skills in marketing education. While many institutions acknowledge their importance, their implementation in fact varies widely (Harrigan and Hulbert, 2011). This inconsistency results in differing levels of preparedness among graduates. Some programmes incorporate strategic decision-making into coursework, while others focus primarily on tool proficiency, treating problem-solving and creative thinking as secondary skills rather than as core competencies.

Over-emphasis on technical skills can feel like an easy win – after all, students and employers alike expect industry-relevant, job-ready training. However, prioritising software mastery over broader meta-skill development creates a generation of marketers who can execute tactics, but may lack the agility to pivot when those tactics become obsolete. Given the ever-changing nature of the marketing landscape, the risk of obsolescence is high. Marketers skilled in today's tools but lacking the ability to anticipate industry shifts may find themselves struggling in just a few years.

This growing divide is particularly evident in how students respond to complexity. When given structured assignments with clear deliverables, students excel. Yet, when confronted with real-world scenario problems without a straightforward answer (such as interpreting incomplete data, responding to shifting consumer behaviours or managing competing stakeholder interests) many hesitate or experience anxiety. This hesitation glaringly illustrates that though we teach students how to use tools, we do not always help them develop the meta-skills to use these strategically.

Integrating meta-skill development and technical knowledge

On the MA in Marketing Management (MAMM), we have experimented with ways to address this challenge. In our 'Data Analytics' module, for example, we ask students not just to master data visualisation software like Tableau, but to wrestle with real-world, imperfect data. Traditional exams that test memorisation of concepts do little to foster the kind of analytical thinking required in modern marketing roles. Instead, project-based learning based on live or real-world cases pushes students to synthesise information, adapt to new challenges and

defend their decisions, just as they will have to do to meet the complexities of the real workplace (Walker *et al*., 2009; Rohm *et al*., 2021). By working in teams on iterative projects, our students must analyse, interpret and present insights while navigating ambiguity, so refining their creative problem-solving skills and powers of communication in tandem with their technical capabilities: a much more coherent and integrated preparation for future employment.

A crucial component of our approach is fostering collaboration. Marketing, like business and other disciplines, is inherently interdisciplinary – professionals must work alongside designers, data analysts and other marketers to create compelling campaigns. To reflect this reality, our digital marketing lab is designed to facilitate teamwork, complementing the project approach. Students sit in small rectangular tables of six to seven chairs, each with a large screen on which students can screencast their device to share their insights, debate findings and co-create solutions in an environment that mimics the collaborative nature of the industry. Strikingly evident is that students engage more deeply with the material, and the sense of ownership over their work increases. They stop looking for a single 'correct' answer and start developing informed, strategic perspectives. Research suggests that diverse learning environments enhance problem-solving and innovation (Davies *et al*., 2013; Beghetto and Kaufman, 2014). Additionally, non-traditional classroom settings play an essential role in developing creativity (Jankowska and Atlay, 2008). On MAMM, we combine technology-enhanced classrooms with experiential learning and original thinking activities, so drawing theory and practice together in inspirational ways and to maximum effect.

Conclusion

Reflecting on these experiences, we believe the challenge is not choosing between technical and meta-skills but finding ways to embed both seamlessly and simultaneously into our teaching. This means: rethinking assessments – moving beyond exams that test recall and instead emphasising projects that demand synthesis, analysis and original thought; establishing pedagogical spaces that support discussion, experimentation and creative risk-taking.

The future belongs to those who can blend technology with insight, data with storytelling and automation with human intuition. As educators, we have a responsibility to nurture not just the graduates who can use today's tools but the thinkers and leaders who will shape tomorrow's industry. If we fail to equip students with adaptability and the strategic thinking skills they need, we risk graduating professionals who are technically skilled but strategically unprepared for the realities of a shifting industry landscape.

The solution lies in balance. By integrating meta-skills into education – not as optional additions but as fundamental elements of learning – we ensure that graduates are not only job-ready but future-ready. This requires a commitment to continuous curriculum evolution, industry collaboration and pedagogical innovation. Only then can we claim to be equipping students with what will enable them to be multi-skilled and adaptable enough to function effectively throughout their careers.

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